PUNJAB ADMINISTRATION REPORT

1916-1917

PUNJAB ADMINISTRATION REPORT, 1916-17.

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REPORT

ON THE

ADMINISTRATION

OF THE

PUNJAB AND ITS DEPENDENCIES

FOR

1916-17.

Lahore:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING, PUNJAB.
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NOTE.—The General Summary is limited to between 20 and 30 pages and the Departmental Chapters to 150 pages.

CONTENTS.

PART I.

GENERAL SUMMARY.

PART II.

DEPARTMENTAL CHAPTERS.

CHAPTER I.—PHYSICAL AND POLITICAL GEOGRAPHY.

CHAPTER II.—ADMINISTRATION OF THE LAND.

CHAPTER III.—PROTECTION.

CHAPTER IV.—PRODUCTION AND DISTRIBUTION.

CHAPTER V.—REVENUE AND FINANCE.

CHAPTER VI.—VITAL STATISTICS AND MEDICAL SERVICE.

CHAPTER VII.—INSTRUCTION.

CHAPTER VIII.—ARCHÆOLOGY.

CHAPTER IX.—MISCELLANEOUS.

MAP AND DIAGRAM.

REPORT

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1916-17.

PART I.

GENERAL SUMMARY.

(The " year " throughout this report is not invariably the financial year ending 31st March 1917. At the heading of each chapter, with the exception of chapter I, a reference is given to the departmental reports which contain details of the subjects dealt with. The " year " of the present report is for each such subject the year mentioned in the title of the departmental report so referred to. In general it may be said that the " year " in chapters I, IV, V, VII, VIII and IX means the financial year ending 31st March 1917, in chapter II it is the revenue year ending 30th September 1916, and in chapters III and VI it is the calendar year ending 31st December 1916.

The Administration Report for 1911-12 was a decennial report, and as such contained many sections of permanent interest to which reference may be necessary in order to understand the working of the Administration; under the orders of the Government of India these sections are not repeated each year, but a reference is given to them in their place in the several chapters of part II of this report.

Except where otherwise stated, the Punjab in this report refers to the Punjab as at present constituted.)

CHANGES IN THE ADMINISTRATION.

Personnel.

1. Sir Michael O'Dwyer, G.C.I.E., K.C.S.I., held charge of the office of Lieutenant-Governor of the Punjab throughout the year under report.

General.

2. The appointment of Additional Secretary to Government was continued for the duration of the war, and that of third temporary Additional Judge of the Chief Court for four months of the cold weather. Two new sub-divisions of districts were constituted.

The Punjab and the war.

3. During the year 1916-17 which saw the great war well on into its third year, the Punjab continued to justify her proud title of the Sword-arm of India. Fully one half of the combatant forces of the Indian Army on the 1st January 1917 came from the Province, and this proportion has been well maintained in the great recruiting rally of the past few months. The Punjab can claim a substantial share in the arduous campaign which culminated in the capture of Baghdad thus crowning the Mesopotamian winter operations of

1916-17, and the two Victoria Crosses won by Punjabis during the year are only the most notable among numerous other distinctions gained in various theatres of the war. Nor did the people of the Province lag behind their fighting men in loyal endeavour. Contributions in money and kind in aid of the war continued to pour in, and by the end of the year more than 40 lakhs of rupees in money alone—not counting innumerable articles for the comfort of the troops—had been subscribed for the various objects mentioned in last year's report.

4. One-third of this total was contributed by the Punjab Native States, the ruling princes and chiefs vying with one another in munificent gifts from their private and public revenues. In men too, as well as in treasure, the Native States have given of their best, from the thousands put in the field by populous and wealthy Patiala to the little band of 50, under the uncle of the chief, supplied by the ancient Hill State of Suket. Of the 24,000 Imperial Service Troops in being at the commencement of 1917 no less than one-third belong to the Punjab, and the cavalry and infantry of Patiala, the infantry of Jind and Kapurthala, the camelry of Bahawalpur and the sappers of Maler Kotla, Faridkot and Sirmur, have won honour for their States and earned the gratitude of the Paramount Power.

5. In other fields also than those of war, the Province has lived up to its reputation in the present crisis. The subsidence of political unrest and the assistance rendered by the people in the suppression of crime are dealt with below, and their loyal co-operation has constituted an asset of incalculable value. Nevertheless the task of administration has been no light one. The protraction of the world-wide conflict has brought with it a multiplication of serious problems and an enormous increase in work of all kinds, while the cessation of recruitment from home and the surrender of over 200 officers of various departments for the army, have put a serious strain on the services which they have, however, borne with devotion and success.

RELATIONS WITH NATIVE STATES.

6. A brief reference to the splendid services of the Punjab States in connection with the war has already been given. In the sphere of internal administration the outstanding event of the year was the investiture of the young Raja of Faridkot with full powers by His Honour the Lieutenant-Governor at a formal Darbar held on the 24th November 1916. His Highness displays the closest personal interest in the conduct of the affairs of his State and shows high promise as an administrator.

7. Among other noteworthy events were the appointment of Diwan Bahadur Daya Kishen Kaul, C.I.E., as Foreign and Financial Secretary to the Maharaja of Patiala in July and the opening of the Jind-Panipat Railway in November 1916. Satisfactory reports were received of the States under minority administration, for which Government is more directly responsible. Bahawalpur continued to be well administered by its Council of Regency, the revenue settlement of Mandi was brought to a successful conclusion by the Superintendent of the State, a member of the Punjab Commission, and the term of office of the Manager of Bashahr, another member of the Commission, was extended

to November 1917 at the request of the Raja. The young chiefs of Bahawalpur, Mandi and Kalsia are making excellent progress at the Aitchison College, Lahore.

FRONTIER AFFAIRS.

8. The year was a comparatively quiet one on the Dera Gházi Khan border, except for a Pathan raid in the north of the district in September 1916. The behaviour of the Baluch tribes was, on the whole, quite satisfactory. Sardar Jamal Khan, the young Chief of the important Leghari tribe, is now settling down to his duties in earnest, and during the year was invested with first class powers. The Jirga system continued to yield good results and the Chiefs' Jirga under the able presidency of the Hon'ble Nawab Sir Bahram Khan, K.C.I.E., Mazari, the *doyen* of the Tumandars, did excellent work both in district cases and in cases with the neighbouring Baluchistan agency.

CONDITION OF THE PEOPLE.

9. High wages benefited the working classes, and high prices and a good autumn harvest brought prosperity to the agricultural population. In a few districts labour was scarce owing to continuous recruitment for the army, but in spite of the war, perhaps to some extent in consequence of it, the agricultural condition of the Punjab was distinctly prosperous. The year was a healthy one except in the last quarter when malaria broke out as a result of the heavy and prolonged monsoon rains, and claimed numerous victims. Cholera, however, was almost completely absent, the incidence of plague was the mildest since 1900, and the death-rate dropped by 5·6 to 30·7 *per mille* of the population. The birth-rate, 45·6 *per mille*, was 2·0 *per mille* above that of the previous year, and was the highest in India during the year and the highest in the Province for the last 14 years.

ADMINISTRATION OF THE LAND.

10. The re-assessment of five districts and the formation of new estates in another enhanced the fixed land revenue demand for the agricultural year ending 30th September 1916 by Rs. 13 lakhs to over Rs. 226 lakhs. Owing however to the failure of the monsoon, the collection of over Rs. 12½ lakhs had to be suspended as compared with Rs. 1½ lakhs suspended in the preceding year and an average of about Rs. 5 lakhs. Apart from this, practically the whole demand put down for collection was recovered and that without the issue of coercive processes on any abnormal scale. The fluctuating land revenue demand fell by nearly Rs. 6½ lakhs to about Rs. 122 lakhs owing to the failure of the rains and river-floods. The continued decrease of area remaining to be allotted in the canal colonies was responsible for a fall of over Rs. 3 lakhs to Rs. 38 lakhs in collections under the head "Other land revenue." The sale of Government waste lands produced Rs. 25¾ lakhs, about the same as in the previous year. Land revenue.

11. One settlement was started during the year and four were brought to a conclusion. The Survey Department carried out circuits and traverses in connection with settlement work in three districts, and in the Sutlej, Beas and Indus riverains. Topographical survey Settlements and surveys.

operations were also continued in three districts and in six Punjab Native States. The Jumna inter-provincial boundary case made no progress, but the boundary of Jammu State and the Gurdaspur District was finally settled.

Land records.

12. Settlement record work was completed in two and practically completed in a third of the five districts in which it was in progress. The conduct and efficiency of patwaris was on the whole satisfactory; the block in their promotion is coming to an end and the educational qualifications of candidates are steadily improving. The closer supervision exercised over the work of kanungos is effecting a noticeable improvement.

Canal colonies.

13. Of the three old colonies, the Lower Chenab, Chunian and Lower Jhelum, the two first were finally merged in their respective districts during the year, the process of allotment having been completed. About one-tenth of the Lower Jhelum Colony remains to be distributed; here most of the grants are held on horse-breeding conditions. Of the three more recent colonies—those served by the Triple Canal System—about one-third each of the small Upper Jhelum and Upper Chenab Colonies has yet to be allotted. Good progress was made in the former during the year; in the latter the disposal of unallotted areas presents some difficulties, but revised arrangements are now being made which it is expected will secure successful colonization. In the large Lower Bari Doab colony with its million acres and more, considerably over a half has now been disposed of, and the year was one of substantial progress. More roads were built, the new town of Okara is growing steadily, plans for three new market-towns have been sanctioned and the eastern part of the colony is beginning to have a look of settled prosperity.

Wards estates.

14. The year closed with 50 estates under the management of the Court of Wards, seven having been released and three taken over. The magnitude of the responsibilities involved is indicated by the fact that the total assets of these 50 estates amount to no less than Rs. 427 lakhs. The total liabilities are only Rs. 13 lakhs and the net value of one of the estates released during the year was increased in ten years of management from Rs. 44 to Rs. 61 lakhs: these facts speak for themselves. Large sums were spent on permanent improvements and in various directions, endeavours were made to set an example of enlightened management.

Revenue and rent-paying classes.

15. Despite bad harvests, agriculturists had on the whole a good year, high prices helping to compensate for the deficiency of outturn in 1915-16. Probably as a consequence of this, and partly perhaps also owing to the increasing activities of co-operative societies, the demand for loans for land improvement continued to decline. For the first time, however, for five years, the area mortgaged exceeded the area redeemed—by about 6,000 acres. The cultivated area mortgaged was indeed slightly less than last year, but the area of cultivated land redeemed was the smallest for ten years. The average price of land continued to rise, representing 151 times the land revenue as against 144 times in the previous year, and 66 times in 1896-97: a remarkable testimony to the rise in values within the present generation. The relations

between landlord and tenant continued normal and satisfactory, and though rents are steadily rising, there is no reason to believe that tenants are being rack-rented or are unable to defend their interests. The mobility of the Punjab peasant and the high wages of labour are a sufficient safeguard against exploitation.

Legislative Council.

16. The constitution of the Council was amended by Government of India Notification No. 20, dated the 30th March 1916. The number of elected members was increased from 8 to 11, four members to be elected by Municipal and Cantonment Committees, and five by District Boards. The number of nominated members was also increased from 16 to 17. These changes were carried out in the triennial re-elections and re-nominations which took place in May and June. Two Bills—the Juvenile Smoking Bill and the District Boards Act (Amendment) Bill—were introduced during the year. The first was circulated for opinion and the second was withdrawn.

Protection.

17. The year 1916 marks the complete disappearance of the serious disorder and lawlessness of 1915, and there is good reason to believe that the administration is gaining steady success in the struggle against crime and the criminal, the result of which up to 1912 was a cause of serious anxiety. There was a remarkable decrease on the figures of 1915 in true cognizable cases dealt with by the police, while if that abnormal year be left out of account, the decline in crime in the quinquennium to the end of 1916 amounts to no less than 16 per cent. Police.

18. Numerous reasons are advanced for this general improvement in the situation, such as the subsidence of political unrest, the special measures taken to cope with wandering criminal bands and the diversion of the energies of the wilder spirits into the various spheres of military activity. Full justice should, however, be done to the increasing support and co-operation afforded by the people themselves who have been quick to appreciate Government's serious pre-occupations elsewhere and to realize their own responsibilities in assisting to maintain law and order. This attitude is well exemplified in the rapidly growing popularity of the systems of village watch and ward known as *thikri-pahra* and *nakabandi* to the success of which is largely attributable a marked decrease in offences against property Government for its own part has not been slow in according prompt and generous recognition of valuable service in the suppression of crime: large cash rewards, grants of State lands and remissions of land revenue have undoubtedly done much to encourage the people to accept the risks which resistance to and pursuit of dangerous criminals so often involve.

19. But no increase in public confidence would have been obtained had not the police shown themselves worthy of it. Each succeeding year has displayed a notable advance in the morale of the force and throughout

the stress of the late critical times Government has been able to rely with confidence on its loyalty and efficiency. The proportion of convictions to trials shows a substantial improvement in 1916 on the average of the previous four years, indicating more thorough investigation by the police and more careful presentation of the cases before the courts. Special mention should also be made of the great success achieved in dealing with large criminal gang cases in the handling of which the police are now becoming expert, thereby dealing a serious blow to the campaign of organized crime.

20. These very satisfactory results are all the more creditable because they were gained in a period of war which has involved the service in a great deal of extra work such as the guarding of bridges, the apprehension of deserters and the provision of escorts for jail prisoners despatched to Mesopotamia. The staff also has been depleted by the loan of officers to the military authorities and the cessation of recruitment of probationers from England, there being now a shortage of 31 out of a sanctioned strength of 78 in the cadre of the Imperial Service. Considerable relief was, however, obtained by a revision and redistribution of the strength of the force in accordance with present conditions, and at the same time the large savings which resulted were utilized to effect a much-needed revision of the rates of pay of constable and head-constables.

21. The special branches of the service continued to render valuable assistance. The burden of work which fell in 1916 on the Criminal Investigation Department, if less serious than in the previous twelve months, was sufficiently heavy to keep its energies fully employed. There was no recrudescence of the lawlessness directly associated with the revolutionary movement, but the aftermath of the *Ghadr* conspiracy is to be found in the Second Supplementary Lahore Conspiracy Case, the Mandi State Supplementary Case, and the Rawalpindi Bomb Case. All these cases, as well as numerous other important investigations, were skilfully carried to conclusion by the Criminal Investigation Department, whose record of work has been of inestimable value to the peace of the Province. Very useful work was also performed by the Finger-Print Bureau at Phillaur where an extremely efficient system has been evolved with great care and deliberation. The expansion in this branch in recent years has been remarkable.

22. The year was marked by the establishment of a central agency under a special officer of the rank of Deputy Commissioner for the registration, restriction and reclamation of the criminal tribes who are responsible for so much of the crime in the rural districts of the Province. Formerly their surveillance had been spasmodic and uncoordinated owing to the want of some such supervising authority. The main features of the scheme, which was brought into operation at the beginning of 1917, are careful registration of all male members of criminal tribes, both settled and nomad, coupled with restriction to defined local areas, and the simultaneous establishment of a number of reformatory, industrial and agricultural settlements. It is hoped that

its eventual results will be to convert many thousands of debased hereditary criminals into law-abiding and self-respecting citizens. The success attained even in the short time that elapsed before the close of the year under report was remarkable.

Criminal Justice.

23. The decrease in crime mentioned above is indicated in a reduction of 14 per cent. in 1916 in the number of cases of the four more serious classes—offences affecting life, robbery and dacoity, theft and the receiving of stolen property. The total of murders exhibits a small increase on the preceding year's aggregate but is slightly below the average of the previous four years. There was also a small rise in the number of matrimonial offences. The number had progressively declined since 1912, and it is to be hoped that the set-back is no more than temporary and is only due, as has been suggested, to the absence of so many young men on active service. The serious feature of this class of crime is its intimate connection with the traffic in women which in recent years has been a scandal in certain tracts, while probably in 40 per cent. of the murders committed in the Punjab the originating cause is matrimonial infidelity or irregular sexual relations.

24. Though there was, as the Police reports show, a real decrease in recorded crime in 1916, the total number of cases admitted by the courts was larger even than in 1915, no less than 269,401 persons, or nearly 1·4 per cent. of the total population, being brought to trial. These statistics are, however, no true index of the criminality of the Province, as of the accused brought to trial only 26 per cent. were ultimately convicted, and it is clear that a great proportion of the cases should have been dismissed at the outset. Nevertheless the number of complaints dismissed summarily and the number of cases struck off as false again dropped, as also did the number of cases in which compensation was awarded to persons falsely accused. The approaching amendment of the Criminal Procedure Code will, it is to be hoped, improve the procedure in this respect. At the same time there can be little doubt that the present unsatisfactory state of affairs is mainly due to the constitutional indolence or timidity of a section of the subordinate magistracy, both honorary and stipendiary, and for this the increased attention now being paid to the inspection of subordinate courts, should provide a remedy.

Prisons.

25. There was a slight decrease in 1916 on the record jail population of the preceding year, but the daily average of persons confined was still very largely in excess of the total accommodation provided, and the construction of another central jail is the only real solution of the problem. There is however no actual overcrowding as the excess prisoners are accommodated in tents and workshops. The vital statistics of a year in which malaria was very prevalent were quite satisfactory; there was a considerable decrease in the daily average sick-rate and the mortality fell from 25 to 20 *per mille* which compares favourably with the death-rate of 30 *per mille* among the free population. The number of escapes was small, and on the whole the standard of discipline and conduct was well maintained.

26. The chief feature of the year, however, was the valuable contribution made by the jails towards the national effort in the prosecution of the war. Volunteers among the jail population between the ages of 18 and 41 who had not been convicted of the more serious offences were invited to enlist for service in labour, porter and sweeper corps in Mesopotamia on specified conditions which included conditional release from the date of embarkation. The response was eager and a sweeper corps of 391 men was sent to Mesopotamia in June, followed by a porter corps of 872 and a labour corps of 1,179 in October, all these corps being kept up to strength by subsequent drafts. In addition to this supply of personnel the jails undertook the manufacture on a large scale of blankets, tents, nose-bags and other articles for the military authorities.

Civil Justice.

27. The most satisfactory feature of the report on the administration of Civil Justice during the year 1916 was the decline of more than 2 per cent. in the total number of civil suits instituted. A poor autumn harvest in 1915 was followed by an almost complete failure of the winter rains and a spring crop much below average. Except in the canal-irrigated districts the cultivator had therefore little, if any, surplus with which to re-pay his money-lender, and the natural result was a substantial decrease in the number of suits by creditors for the recovery of their debts. Heavy recruiting also tended to diminish the volume of litigation; with so large a proportion of their manhood absent on active service, those remaining on the land had less leisure for resort to the courts, and litigation is generally regarded by the Punjab peasant as a luxury to be enjoyed when work is slack and the purse full.

28. The decline in the number of institutions does not, however, mean that there was less work for the courts. It was only in the simplest class of cases, those for money or moveable property, that there was a falling off. More difficult suits slightly increased in number, and the average value of all suits, usually a fairly accurate index of their complexity and of the time required for their decision, was a shade above that of 1915. The average duration, 78 days for contested and 38 for uncontested suits, though almost exactly the same as in 1915, has risen considerably of late years and is far too high. The increasing numerical strength of the Bar and the multiplication of unofficial law reports are no doubt largely responsible, and measures are being taken to deal with the latter. But failure to check irrelevant and undue prolixity in counsel's arguments and disregard of the rules of procedure laid down in the Code are also contributing causes; there are indications that these defects are somewhat common among the lower grades of the civil judiciary and the attention of inspecting Judges is being specially directed to their eradication.

29. More than two-fifths of the total number of suits instituted in 1916 did not exceed Rs. 50 in value. It is true that the number of these petty disputes has for some time past been steadily declining, but they still occupy a disproportionate amount of the time of the regular courts, both original and appellate, and the provision of a cheap, accessible and expeditious agency for their settlement is an urgent problem.

Much was hoped from the Punjab Panchayat Act, which was tentatively introduced in ten districts some two or three years ago. But after every effort to make it a success the Act in its present form has unfortunately proved a failure : the procedure which it provides is slow and cumbrous, it is doubtful whether many of the disputes settled under it would ever have come into the regular courts, and the question of its repeal or radical amendment is now under consideration.

30. Registration business recovered very largely during the year from the slight set-back it received in 1915 and the Registration Report dealing with the triennium 1914 to 1916, discloses a remarkable expansion in the business done. Compulsory registrations of immoveable property, by far the largest and most important branch of registration work, exhibit an increase of 11 per cent. in number and 16 per cent. in value on the figures of the preceding three years, compulsorily registered mortgages increasing by 12 per cent. in number and 17½ per cent. in value, and sales from 25,000 in number in 1911 to 28,000 in 1915 and to close on 30,000, with the record aggregate value of Rs. 314 lakhs, in 1916. These figures bear witness to the steady growth in the amount of capital available for investment in land, and the consequent rise in land values, which have taken place in recent years. The reason is no doubt partly to be found in the check given to industrial and commercial activity by the bank failures of 1913 ; on the other hand the increasing popularity of immoveable property as a field for investment shows how little the material prosperity of the Province has been affected by the war, and is a remarkable proof of the general confidence in the stability of existing institutions. **Registration.**

Local Self-Government.

31. The rural attitude towards elections is still one of diffidence and distrust, probably owing largely to the foreign and novel character of the machinery of voting register and ballot box : were the will of the people to find expression by way of popular discussion and acclamation—as in the earlier stages of local self-government in Europe—there is little doubt that considerably greater interest would be displayed. Nevertheless the right men are frequently chosen, and the general working of the boards continues good. Members, however, have to be carefully nursed ; discussion has to be kept within their mental horizon and definite tasks set them which fall within the range of their experience. Within these limits there has been undoubted progress, and much also is hoped from the devolution of financial responsibilities mentioned in last year's report. But there is little chance of real development with the meagre and inelastic resources which most boards have at present, and in raising their local rate to the statutory limit—small enough though that be—several more boards have taken a step in the right direction. **District Boards.**

32. The gross income of the boards was Rs. 78¾ lakhs, of which nearly half was obtained from the local rate and a third from Government contributions. Some of the ground lost last year has been regained, and there has been an increase of 47 per cent. in the quinquennium ; but the income of most boards is still far too low to permit of anything more than a hand-to-mouth financial existence.

33. The boards devote much of their attention, and about a third of their income, to education; and under the guidance of the Education department a regular and well-considered policy in the location of primary schools is now being pursued. Medical relief does not fare so well: the expenditure on this during the year was only a third of that spent on education and in the case of many boards was quite inadequate. The whole of the receipts under this head only amounted to just over a lakh of rupees and boards still seem unable to get over their dislike of charging fees from the well-to-do.

Municipalities.

34. The general attitude of the municipal voter towards elections is much that of his rural *confrère*, except on the occasions when personal or sectarian feeling gives rise to keen contests—with their far too frequent accompaniments of bribery and corruption. Some improvement may be effected by the rules and model bye-laws which Government has recently issued; but the success of the elective system must primarily depend on a healthy public opinion in such matters—unhappily a plant of slow growth in the East.

35. Committees are on the whole discharging their duties satisfactorily, though members are somewhat too prone to shirk important problems. They also too often endeavour to keep control of petty executive matters in their own hands: a tendency frequently resulting in jealousy of the executive officers of the committee. In many cases also their general attitude towards municipal questions leaves room for improvement, and it is only in the larger towns with their broader outlook and higher standard of education, that members are gradually acquiring that appreciation of public duty without which urban self-government is impossible.

36. The total income of municipalities for the year was Rs. 82 lakhs: an increase, excluding Government grants (Rs. $7\frac{1}{3}$ lakhs this year), of 10 per cent. in the quinquennium. More than half these receipts were the proceeds of taxation, and of the latter, octroi contributed the record amount of Rs. 40 lakhs, or 88 per cent. The substitution of a terminal tax, however, continues to gain ground, and legislation is under consideration which should materially facilitate that desirable end.

37. Committees showed themselves on the whole fully alive to their responsibilities in the matters of education and medical relief, though like district boards they still have an unconquerable aversion to collecting fees for medical attendance from those who can well afford to pay. In the majority of municipalities there has been no serious attempt to deal with overcrowding, or with the food and milk supply; at the same time the number of large schemes of public improvement in hand or under consideration indicates that committees are beginning to appreciate the need for better conditions and to take practical steps to realize them.

AGRICULTURE, WEATHER AND CROPS.

The Lyallpur Agricultural College.

38. Agriculture in India suffered a heavy loss by the death of Mr. J. H. Barnes, late Principal of the Lyallpur Agricultural College, not long after his transfer to Pusa as Imperial Agricultural Chemist in February 1917. Mr. Barnes' large and enterprising outlook, wide knowledge

and indefatigable energy promised great results of which a part had already been realized in the rehabilitation of the Agricultural College, and in the initiation of enquiries of vast potential importance to agriculture. Largely as a result of his personality and efforts the Lyallpur College after several years of vicissitudes is now firmly established in popular esteem. The Indian public has realized not only that the College can lead to an honourable and well paid career but also that the possibilities of improved agricultural methods in the Punjab are not small. The College classes are consequently filled to over-flowing and its graduates are in ever greater request as managers of estates.

Work of the Department of Agriculture.

39. The Department is securing in a growing degree the confidence of the agricultural population. Its activities in the year under report were increasingly varied and extensive, and a great future is anticipated for it. The experiments and demonstrations in implements and methods at the Lyallpur and Gurdáspur farms, and the demonstrations at fairs and on private farms throughout the country are producing noticeably excellent results, while the success of the department in popularizing well-established varieties of seeds is evidenced by a quadruple increase in the area under American 4-F cotton and Punjab 11 wheat. Attention is also now being pail to the important question of the transport and marketing of agricultural produce, and the first steps were taken in connection with cotton: representatives of the great cotton exporting firms and Indian growers and dealers were consulted, and measures were considered to prevent adulteration by producers and to secure an adequate price for Punjab American cotton in the wholesale market.

40. A notable feature of the year's work was the successful completion of the experiment in reclamation of saline land at Narwála which marks a definite stage in the solution of a problem of enormous importance to Punjab agriculture. A scheme for the reclamation on similar lines of a very large area on the Lower Bari Doab Canal is under consideration, and though experts are not altogether unanimous as to the prospects of success, Government will not be deterred by the risk of failure from making an experiment which will cost a few lakhs of rupees, but which if successful on a large scale will add some millions sterling to the capital wealth of the Province.

Veterinary and Livestock.

41. The year was marked by excessive monsoon rains which were as unhealthy for cattle as for human beings, and there were many outbreaks of contagious disease. Surra and dourine among equines and rinderpest and hæmorrhagic septicæmia among bovines were particularly prevalent, the Dourine Act having eventually to be extended to the whole Province. The Civil Veterinary Department with its staff 25 per cent. below strength had a ha d task but did all that was possible to cope with the epidemics.

42. The year was a successful one for the Punjab Veterinary College at Lahore. The number of students admitted was larger than in the previous year and the results of the examinations were very creditable to the Principal and his staff. There was again a considerable increase in the number of in-patients treated in the hospital attached to the College; but the number of out-patients continued to decrease, probably owing to the distance of the building from the city:

a second municipal hospital will however, it is hoped, soon come into existence to meet this need.

Fisheries.

43. Fishing regulations have now worked satisfactorily in two districts for over a year, and an extension of the law to four others is contemplated. The Kapúrthala State has also come into line, and will probably introduce some rules framed by the Department. Good sport has been obtained in Kulu since the trout-fishing was opened to the public last year; the trout nurseries there were very successful and fresh nurseries have also been started in the Mandi and Chamba States.

Co-operative Societies.

44. The year 1916-17 was again one of consolidation rather than expansion for the co-operative movement. There was no marked change in the number of societies or in the amount of capital invested in them, but progress in the improvement of existing societies was nonetheless real, and their generally flourishing condition in spite of the abnormal financial conditions created by the war is evidence that they are working on sound lines. Practically all societies were subjected to systematic inspections and the majority classified as good, fair, poor or bad. The thorough nature of this scrutiny is shown by the fact that no less than 12,000 members of agricultural societies, who had no real interest in the movement, were expelled, and a number of unsuccessful societies wound up, a process which cannot but have a strengthening and invigorating effect upon co-operation as a whole.

45. Much was done during the year to improve the status of societies: the valuable concession mentioned in last year's report, whereby the provincial finances bear the cost of three-quarters of the commission paid on money-orders despatched from one society to another, received the sanction of the Government of India, and new rules were issued under section 43 (1) of Act II of 1912, the important innovations being that primary societies may pay a cash dividend of not more than ten per cent. in their twelfth and following years, and that the awards of arbitrators shall be enforced by a civil court as a decree of the court. A second officer of the Indian Civil Service was placed on special duty under the Registrar of Co-operative Societies in January 1917, and the number of Government Inspectors was raised to nineteen. At the same time the Sub-Inspectors formerly paid by Government were discharged and re-employed by societies.

Rainfall.

46. The monsoon of 1916 was unusually active and widespread and was followed in the beginning of October by heavy rains which were most favourable for the sowing of spring crops. The winter rains, however, commenced late and were very deficient, the season being in fact one of the driest on record, and the canal supply was seriously affected. But good rain in April 1917 helped the wheat crop of the Northern Punjab though some damage was done in the East and South-East where much of the crop had been cut.

Crops and prices.

47. The harvests of 1916-17 were on the whole a great improvement on those of the preceding year. Owing to the excellent rains, the sown and matured areas in the autumn harvest of 1916 were well above normal and fell little short of the record. In the following spring harvest, however, the shortage of winter rains brought the matured area down just

below normal, though sowings had been good. This and large exports raised the price of wheat slightly. Increased export was also responsible for a rise in the price of cotton; but other crops cheapened as compared with the previous year, though prices of course still remained affected by the war.

FORESTS.

48. There was a slight decrease from just over to just under Rs. 17 lakhs in the Forest income, and an increase of nearly half-a-lakh to Rs. 9½ lakhs in expenditure. Thus the year was financially somewhat less successful than its predecessor. It represents, however, a marked improvement on the average of the previous three years: the reduction in income was very largely due to the gradual completion of tree clearance in areas coming under colonization in the central and south-western districts; and there is every reason to believe that the revenues of the department will steadily expand as the irrigated plantations in the plains mature, and the hill forests are more scientifically exploited.

49. That increased exploitation will be a crying need in the near future there can be no doubt: the war has greatly stimulated the demand for timber and it is practically certain that after the conclusion of peace, Indian railways will require large quantities of wood for conversion into sleepers. The resources of the Punjab are however quite capable of meeting the increased demand; but to do so, they must be exploited to greater advantage than they are at present. There are large areas now under the charge of the Buildings and Roads and Irrigation Departments which with expert management might be made to yield much more in the way of fuel and timber; while in the hill forests expert opinion now generally takes the view that departmental management would produce a better return than the present system of leasing extensive areas to private contractors. It is clear, however, that the department is far too undermanned to undertake these wider activities and the necessity for a largely increased staff has been recognized. A scheme for the re-organization of the superior cadre has therefore been approved by the Secretary of State: it will be introduced gradually as financial conditions permit and officers with the necessary qualifications become available; and provision has already been made in the budget for 1918-19 for a second Conservator with his clerical and ministerial establishment.

50. Meanwhile despite a sadly depleted staff (seven out of fifteen officers of the Imperial Service have been on leave or deputation, including three on military duty), and a specially heavy burden of work arising from urgent demands for timber by the military authorities, the department can be congratulated on a successful year. Good progress was made with the various working-plans and forest-settlements in course of completion, and a marked decrease in the number of forest offences and forest fires demonstrates the steady improvement in the relations between the people and the department. There was also a large increase in the output of resin and turpentine from the department's factory at Jallo; the quality has been pronounced fit for the European market, and the profits for the year largely

exceeded the cost of the factory. This resin industry is an excellent instance of departmental enterprise: it is perhaps the most successful industrial concern of recent years in the Punjab, and it may play a large part in the future development of the Province.

TRADE AND MANUFACTURES.

Industries.

51. The Punjab is one of the great salt-producing provinces of India, and the output rose from 144,000 tons in 1915-16 to 160,000 tons. Coal and oil are the only other minerals found in any appreciable quantity, but their outturn is small and decreased still further during the year.

52. The total number of operatives in factories—32,000—was again a record. Nearly 40 per cent. of these were employed in the big Railway and Canal workshops where the staffs were greatly increased to cope with large munitions and other war orders. Half the remainder were in the numerous cotton ginning and pressing factories of the province, which had a successful year as a result of the good cotton crop. Some progress was made in the improvement of ventilation and lighting in factories, the fencing of dangerous machinery and the provision of means of escape from fire; but Indian employers are still far too indifferent to the welfare of their work-people, permitting, if not encouraging, squalid and insanitary housing, the sweating of women and children and a disregard of the weekly holiday and the daily rest interval.

Rail and river-borne trade.

53. The balance of trade, which was badly upset in the first year of the war, recovered somewhat in the second year, and still more in the year under report, there being a further fall in the volume of imports, accompanied by a large rise in that of exports. The total volume of trade is still less than before the war, but owing to high prices the value has practically regained its previous level. The war and shortage of freights were responsible for decreased imports from overseas, such as of cotton piece-goods, and metal girders and sheets, while good harvests lessened the demand for sugar and food-grains from outside the province. The largest increases in exports were in wheat, fodder and raw cotton, of all of which the local harvests were good. Imports of gold and silver bullion decreased owing to high prices but there was a large increase in the import of silver coin on account of the continued prohibition of the issue of gold from Government Treasuries.

Trans Frontier Trade.

54. The Punjab carries on a small trade with Southern and Western Afghánistán, Central Asia, and Western Tibet, by certain recognized frontier routes provided with registration stations. The registered Afghánistán trade, which is exclusive of rail-borne trade, is of a minute nature, and amounted during the year to not much more than a lakh of rupees in value: a small quantity of leather, cotton piece-goods and husked rice is exported in exchange for fruit, vegetables and nuts. The total value of the Central Asian trade fell by two lakhs to twenty-two lakhs of rupees. The principal exports are manufactured silk, Indian tea, and cotton piece-goods, in exchange for raw silk and wool and charas, Yárkand being the sole source of the provincial supply of the latter drug. There was a slight increase in the trade with Western Tibet. The Punjab imported about Rs. 6 lakhs

worth, mainly of raw wool, with some borax, salt and hides, and exported about half-a-lakh of rupees worth of cotton piece-goods, Indian tea, and brass and copper utensils.

55. The report on Joint Stock Companies in the Punjab for the year 1916-17 does not make encouraging reading. There are only 78 active companies in a province with a population (British territory) of some 20 millions. The amount of paid-up capital indeed increased by nearly Rs. $72\frac{3}{4}$ lakhs; but this was due to the activities of an important firm of English bankers: indigenous companies continue to disappear rapidly, and, except for a few under sound control, most of those that remain do not appear to understand the elementary principles of joint-stock enterprise, or to appreciate the necessity for the safeguards and restrictions provided by the law. **Joint Stock Companies.**

PUBLIC WORKS.

56. The financial restrictions imposed by the war continued to narrow the activities of the Public Works Department during the year. The expenditure of the Buildings and Roads Branch, which had been Rs. 83 lakhs in 1914-15 and Rs. 68 lakhs in the following year, fell to Rs. 49 lakhs in 1916-17, and the progressive rise in prices of imported articles and frequently the impossibility of obtaining them at all, seriously hampered the execution even of sanctioned projects. The staff of the Department also suffered further depletion: out of a sanctioned and actual strength of 43 officers on the Imperial establishment, only 25 were on duty at the end of the year, and no less than 80 per cent. of the European officers of fighting age are either on active service or engaged in war work of some kind.

57. Despite these difficulties the year shows a good record of work accomplished. Many town drainage schemes were on hand or were completed, and numerous buildings were erected for different branches of the administration. In the important sphere of communications there was a steady improvement in the main roads under the Department's charge, though the shortage of wagons on the North-Western Railway considerably impeded the carriage of stone ballast which is being rendered increasingly necessary by the gradual depletion of the local deposits of *kankar*. Progress was also made with the new road-bridge into the United Provinces over the river Jumna.

58 The improvement of the capital of the Punjab continued apace. The surroundings of the King Edward Memorial group of hospital buildings were cleared of unsightly and insanitary shanties and cab-stands, the various tombs and temples in the vicinity were repaired and their precincts planted with grass and trees, and the scheme was completed by the erection of the fine Ewing Hall Hostel, opened by the Lieutenant-Governor on the 8th November 1916. The result is an architectural group and setting of which any city might be proud.

IRRIGATION.

59. The year 1916-17 is marked as the first complete year of working of all three canals of the Triple Project noticed in last year's report, and by the closing of their construction accounts with an expenditure of

over 10 crores of rupees. One million acres were irrigated during the year by these three canals, as against the million-and-a-half estimated; but the delay of one year in the completion of the Upper Jhelum Canal, on which the working of the other two depends, was responsible for this, and it is hoped that a few years more will see the forecast fully realized.

60. The expansion of irrigation attained was however very considerable, and with the abundant monsoon rainfall of the summer and autumn of 1916, resulted in an increase during the year of nearly three-quarters of a million acres in the total area irrigated by the Punjab Canals, and of 4½ crores of rupees in the estimated value of the crops raised, the total of the former amounting to 9½ million acres and of the latter to 32 crores of rupees. Of the irrigated area, 8 million acres received their water from perennial and 1½ millions from inundation canals, and there were over 4,000 miles of main and branch canals, and nearly 15,000 miles of distributaries in operation at the end of the year.

61. This expansion of irrigation is reflected in an increase from 2½ to nearly 3 crores of rupees in the direct receipts of the department; the gross receipts were the highest on record; and with a further reduction in expenditure, the net profits, which in 1915-16 were just on 11 per cent. excluding, and 7½ per cent. including, interest charges, rose in 1916-17 to nearly 13 per cent. and 10 per cent., respectively, on a total capital outlay up to date on the main canals of the Province, of over 22 crores of rupees.

62. But the Punjab irrigation department is still seeking new fields to conquer and several important projects are under examination. Among the most noteworthy are (1) a barrage on the river Jhelum at its exit from the Woolar lake in Kashmír, (2) a scheme for the fuller and more efficient use of the waters of the Sutlej river below its confluence with the Beas (this project is estimated to cost just on 10 crores of rupees and bring in a net profit of 9·8 per cent.), (3) an enormous dam at Bhakra, high up on the Sutlej, to impound water for the irrigation of about one-and-a-half million acres, and (4) a canal from the Indus at the southern end of its Salt Range gorge, to irrigate about two million acres of the Sind Sagar Doab desert.

RAILWAYS.

63. With the exception of a railway from Jind to Panipat, 43 miles long, no new lines were opened during the year and the total mileage of railways of all classes at the end of the year remained unaltered.

REVENUE AND EXPENDITURE.

General.

64. The revenue raised in the Province in 1916-17 amounted to Rs. 1,028 lakhs or Rs. 130 lakhs more than in the previous year, the Provincial share being Rs. 517 lakhs, a rise of Rs. 29 lakhs. The largest increases were of Rs. 49 lakhs under Salt (a purely Imperial head), and Rs. 50½ lakhs under Irrigation—Major Works, the latter being due to the extension of irrigation from the Triple Canal system. Other noteworthy increases were under Excise and Opium (Rs. 6½ lakhs), Income-tax (Rs. 6 lakhs), Miscellaneous (Rs. 5¾ lakhs) and Land Revenue (Rs. 5½ lakhs). There was no decrease of any importance.

65. The total expenditure for the year was Rs. 589 lakhs, or Rs. 23 lakhs less than in 1915-16. The Provincial share was Rs. 458¾ lakhs, as against Rs. 477 lakhs in the preceding year. The chief decrease was one of Rs. 17 lakhs under Civil Works and was mainly due to war-time restrictions on expenditure. Other decreases were of Rs. 4⅓ lakhs under Medical (owing to the departure of officers on military service), Rs. 2½ lakhs under each of Law and Justice—Courts of Law and Irrigation—Major Works, and over Rs. 2 lakhs under Land Revenue. The only important increase occurred under Famine Relief where expenditure rose by Rs. 4 lakhs owing to fodder concessions. The close of the year saw the Provincial balance increased from Rs. 63½ lakhs at the end of 1915-16 to Rs. 122⅓ lakhs.

66. The large concentration of troops in the Province and its neighbourhood and the prohibitive prices of imported liquor were responsible for a considerable increase in 1916-17 in the proceeds of the duty on Indian-made beer and foreign spirit. The liquor revenue reached the record figure of Rs. 50½ lakhs, and with the usual income from opium and other drugs raised the total excise revenue to Rs. 75¾ lakhs, an increase of 8 per cent. on the revenue of the preceding year. Excise.

67. Except, however, in the case of beer, which is mostly consumed by British troops, there was no marked increase in the normal consumption of liquor. A little more country spirit was indeed drunk than in 1915-16 when for temporary reasons the consumption had fallen unusually low; but 7 per cent. less was drunk than in 1914-15, and nearly 15 per cent. less than in 1913-14. There is every reason to be satisfied with this progress : it is no doubt largely due to the increase in the duty, but in part also to the efforts made for some time past to discourage intemperance by the closing down of shops, the discontinuance of fair licenses and other similar measures. The dangers of too sudden a reduction in facilities for licit drink have, however, not been lost sight of, and an energetic campaign has in recent years been carried on against illicit distillation : a very fair degree of success is being obtained, and perhaps the most encouraging sign is the increased assistance given by village headmen and their growing sense of their responsibilities in this direction.

68. The opium revenue of just over Rs. 16½ lakhs was slightly larger than in 1915-16, despite restrictions placed on the issue of excise opium in order to check smuggling. Excise opium fetches very high prices in Burma and smuggling, especially through the Native States, is so profitable that a widely ramified organization has grown up to defeat the law. A special bureau is however at work, much valuable knowledge of the illicit traffic has been acquired and the whole question is receiving consideration. There was a rise in the consumption of charas which is being met by increased taxation. Sales of cocaine fell by nearly half owing to high prices and a reduction in imports.

69. Receipts under the Court-fees and Stamp Acts, Rs. 59⅘ lakhs, exhibited an increase of a lakh and a half which was fairly evenly divided between Judicial and non-Judicial Stamps. The increase in the former is mainly attributed to good harvests which enabled peasants to redeem their land and money-lenders to recover their debts, and also to Stamps.

enhancements in the conventional value of land made at recent revenue settlements. The increase in receipts from non-Judicial Stamps, which was assisted by the absorption of two smaller banks by the Alliance Bank of Simla, is the natural result of the rising value of urban property and the various other manifestations of provincial development.

Income-tax.

70. The enhanced rates of assessment introduced by the new Act came into force on April 1st, 1916, and the result was apparent in an increase in the final demand by 51 per cent. to Rs. 23 lakhs. The general growth of prosperity and the success of the special assessing agency mentioned in the last report also contributed to this result. These figures are however no guide to the commercial wealth of the province as most of the big exporting firms, a large proportion of whose profits accrue in the Punjab, have their principal places of business or residence elsewhere. The group system of assessment referred to last year has only met with moderate success: the tendency is to over-assess the poor and to favour the rich, and the panchayats as a rule have failed to obtain the confidence of tradesmen.

VITAL STATISTICS.

Birth and death rate.

71. The year 1916 was on the whole a healthy one and the vital statistics of the province were consequently more satisfactory than they have been for some time past. The birth-rate of 45·6 *per mille* of the population is 2 *per mille* higher than that of the previous year and is with two exceptions the highest ever recorded in the Punjab. The total number of births registered was 881,546. Deaths numbered 593,670 or 30·7 *per mille* of the population. This rate is 5·6 less than that for 1915, and 1·0 less than the average of the preceding quinquennium. The general death-rate in towns was higher than that in rural areas but exhibited greater variations. The last quarter of the year, which is the malarial season, was as usual the unhealthiest, and the first few months the healthiest. On the whole prices of food-grains ruled high during the year.

Public health.

72. Had it not been for the prevalence of malaria due to unusually heavy monsoon rains, the vital statistics for 1916 would have been even more satisfactory than they were. Cholera and plague were almost completely absent: the former accounted for only 1,651 deaths as compared with 13,196 in 1915, while the visitation of plague was the mildest ever experienced in the province. For 3 weeks in July 1916 the whole Punjab was declared free of plague for the first time for 20 years: there were only 4,151 deaths as compared with 244,104 in 1915, and the worst-infected districts were those which were left with a legacy of the disease from the previous year. Unfortunately malaria was more prevalent, for the reason given above. It never became really epidemic on any large scale, but its extent is indicated in the increase of 32 per cent. in the number of deaths recorded as due to fevers, as compared with the figures of the previous year. Everything possible was done to cope with the outbreak: on the first sign of the occurrence of cases, itinerating dispensaries were sent to all known malarious tracts and a liberal supply of quinine was provided throughout the Province.

73. The usual grants were made to local bodies for urban and rural sanitation and a large number of drainage and water-supply schemes received the approval of the Sanitary Board and the sanction of Government. Attempts to enlist the co-operation of the people and to improve village sanitation have however met with little real success. Sites near villages are invariably in a filthy condition, and manure and dung are stacked in the vicinity of dwelling houses and drinking wells. An epidemic of cholera or plague or the visit of a touring officer will often effect a temporary improvement, but very soon afterwards matters revert to their normal condition. The usual number of large fairs was held during the year, and thanks to the arrangements made by the officers of Government, they were unattended by any outbreak of disease. Sanitation.

MEDICAL RELIEF.

74. War conditions continued to hamper the provision of additional facilities for medical relief, the net increase during the year in the number of dispensaries being only 5. The number open at the end of the year was 478, and is quite inadequate for the needs of the Province : it is estimated that nearly one hundred more are required to provide even one dispensary for every 35,000 persons. The income of the department increased by over half a lakh to nearly Rs. $16\frac{1}{2}$ lakhs, but would stand at a much higher figure if local bodies insisted on the payment of fees by the well-to-do. Expenditure rose from Rs. 14 lakhs to just over Rs. 15 lakhs. Dispensaries.

75. There was again a small increase in the number of in-patients treated ; the number of out-patients rose by over a quarter of a million to nearly five millions, owing mainly to the outbreak of malaria referred to above. The number of major operations performed continued to increase, while the death-rate among patients operated on remained at its previous low figure. Diseases and patients.

76. There was a slight increase in the number of women treated. Much, however, remains to be done, particularly by way of augmenting the supply and improving the quality of women workers. The new Punjab Medical School for Women at Ludhiána has not hitherto attracted the number of non-Christian girls hoped for ; but a scheme for the provincialization of the female Sub-Assistant Surgeons' service and the improvement of their prospects is under consideration, as also are proposals for the constitution of a Central Midwives' Board, and the establishment of a Midwives' Central Training School at Amritsar. Treatment of women.

77. The needs of the war continued to deplete the ranks of the department, and during the year a large number of Assistant and Sub-Assistant Surgeons were deputed for military duty. Over 200 dressers were also trained and supplied for service with the army and 330 beds at different hospitals were reserved for sick and wounded soldiers from overseas. The Punjab Medical Registration Act, with its far-reaching effect on the profession in the Province, was placed on the Statute Book in March 1916. General.

EDUCATION.

78. Remarkable progress is disclosed in the current report of the Director of Public Instruction dealing with the quinquennium ending 1916-17. The annual expenditure on education has risen from Rs. 69 lakhs to Rs. 109 lakhs, the number of students from 381,000 to 477,000 and of institutions from 7,400 to 9,400. Many new buildings have been erected, the number of trained teachers has almost doubled and there has been a distinct improvement in their pay and prospects. On the other hand during the last two years the rate of progress has been retarded by the war: Imperial grants have been reduced; the scheme for the construction of a second Government College outside Lahore has been in abeyance; and the project for a second Training College at Jullundur has had to be postponed.

79. Collegiate education has also undergone a remarkable extension during the same period. The number of students in the ten Arts Colleges for men increased from 2,462 to 4,221, the annual recurring expenditure rose by 78 per cent. to Rs. 6½ lakhs, and altogether nearly Rs. 6½ lakhs were spent on new college buildings. Great importance has also been attached to fostering the corporate and social life of the colleges and more than half the students reside in hostels or controlled premises.

80. While the problem of finding employment for the graduates of the Arts Colleges is beginning to merit serious consideration, no such difficulty arises in the case of the professional colleges and technical institutions. The advantages offered by these have obtained ready recognition from the practical-minded Punjabi, and the demand for graduates from the Medical, Veterinary, Agricultural and Central Training Colleges and from the Rasul Engineering School, the Mayo School of Art and the Victoria Diamond Jubilee Hindu Technical Institute, greatly exceeds the supply. At some—notably the Agricultural College and the Central Training College—numbers have to be refused admission for lack of accommodation, but much has been done in the last five years with the funds available, and the new buildings opened by Lord Hardinge in 1915 for the Medical and Veterinary Colleges in Lahore are among the largest and best-equipped of their kind in India.

81. The profession of teaching can at last be said to command a fair chance in the market. Local bodies are beginning to realize the vital importance of well-paid and well-trained masters, the rates of pay have been almost universally improved, and a correspondingly higher standard of attainments is now required. The percentage of trained teachers in secondary schools has risen from 54 to 65 and in primary schools from 41 to 52 in the past five years. The number of normal schools has consequently been doubled in order to meet the increased demand, training classes have been opened at various centres to supply local and immediate needs, and the applicants for admission to the Lahore Central Training College so far exceed the accommodation available that it has been decided to open a second college at Jullundur—a project only postponed owing to the war.

82. The number of primary schools for boys has risen in the quinquennium from 3,417 with 179,410 pupils, to 4,913 with 245,628 pupils; and there is now a school for every seven villages, as compared with one for every ten in 1911-12. The progress of secondary education has been no less satisfactory. Expenditure has risen by 75 per cent. from Rs. 16 lakhs to Rs. 28 lakhs annually, and the number of schools and pupils by 33 and 36 per cent. respectively. The quality of teaching has improved hand in hand with the quality of teachers, and increasing attention is also being paid to the physical and moral welfare of the boys. The problem of suiting the curriculum of primary schools to the needs of rural life, and of avoiding the examination fetish in secondary schools is receiving the consideration it deserves.

83. The record of the secondary schools of the Province in connection with the war is one of which they may well be proud and proves that among the martial classes the younger generation has inherited to the full the traditions of their forefathers. In the Rawálpindi Division alone nearly a thousand teachers and pupils have enlisted in the army, and some of the teachers have shown themselves enthusiastic recruiters. Considerable contributions have been made to various funds, pupils in many cases foregoing their prizes so that the money might be sent to the Red Cross or the Comforts Fund for troops in the field.

84. Noteworthy progress has been made in the education of Indian women: the number of institutions for girls has risen since 1911-12 from 669 to 990, and of scholars from 33,260 to 51,496, while the number of women under training for the teaching profession has increased five-fold. The Christian Missions, the Arya Samaj, the Khalsa Diwan and the Dev Samaj have done notable pioneer work towards breaking down ancient prejudice; Indian public opinion is now more favourable, and education is beginning to be valued by parents as tending to improve the prospects of their daughters in after life.

85. Of the various communities in the Province, the Muhammadans are still the least advanced in proportion to their numbers. They are well represented in the Agricultural and Veterinary Colleges, the Mayo School of Art and the Industrial schools; but in every other branch of education they fall far behind the Hindus and Sikhs. The main cause of this comparative stagnation is the relative poverty of Muhammadans which renders it necessary for them to make an early start in life. The remedies hitherto employed, such as the remission of fees and the establishment of special scholarships, have not been particularly efficacious. Various other suggestions are made in the Director's report but the most promising signs are the steady increase in the number of Islamic institutions and the liberality which the Muslim gentry display towards the education of their co-religionists.

86. There are 34 European public schools in the Province, four of which are directly managed by Government, the total number of scholars being 2,890. The Lawrence Military Asylum at Sanawar and the Lawrence School, Ghora Gali, are distinguished for their general efficiency, the *esprit de corps* of their scholars and the lofty sense of duty exhibited by their Principals and staffs. The schools are, however, suffering at present from a dearth of teachers for which the claims of

the army are responsible, but the general efficiency is nevertheless well maintained.

Literature and the Press.

87. There is little to remark regarding the literature of the year. The output of books and periodicals slightly increased, despite the shortage of paper; but there were few works of any particular merit, and the general literary standard was not high. Religious publications and inferior poetry predominated as usual. The former on the whole displayed an improvement in style, but were in some cases marred by objectionable attacks on rival creeds.

88. There was a further slight fall to 261 in the number, and 270,000 in the circulation, of newspapers and periodicals published during the year; the decrease in circulation being attributed to the increased cost of paper and printing materials. The conduct of the press showed on the whole a marked improvement on the previous year. There were fewer cases of demand of security under the Press Act of 1910 and considerably fewer warnings for publication of articles objectionable on political or other grounds, while there was only one prosecution under section 292 of the Indian Penal Code, as against 19 the year before.

PART II.

DEPARTMENTAL CHAPTERS.

CHAPTER I.

PHYSICAL AND POLITICAL GEOGRAPHY.

1.—Physical Features of the Country, Area, Climate and Chief Staples.

(See pages 1—16 of the report for the year 1911-12.)

2.—Historical Summary.

(See pages 16—30 of the report for the year 1911-12.)

3.—Form of Administration.

(See pages 30—48 of the report for the year 1911-12.)

4.—Character of Land Tenures and System of Surveys and Settlements.

(See pages 48—58 of the report for the year 1911-12 and the Punjab Settlement Manual.)

5.—Civil Divisions of British Territory.

(See pages 59—62 of the report for the year 1911-12.)

6.—Details of the last Census—Tribes and Language.

(See pages 62—71 of the report for the year 1911-12.)

7.—Changes in the Administration.

1 Sir Michael O'Dwyer, G.C.I.E., K.C.S.I., held charge of the office of Lieutenant-Governor of the Punjab throughout the year. **Personal.**

2. The decided success of the arrangements for the systematic inspection of judicial courts justified the re-appointment of a third temporary Additional Judge for four months in the cold weather of 1916-17. The Government of India sanctioned in November 1916 the retention of the appointment of Additional Secretary to Government up to the 14th September 1917 or till the termination of the war whichever were earlier. **General.**

3. In the year under report the Alipur Tahsil of the Muzaffargarh District was constituted a sub-division of that district. Also certain villages and areas of the Multán District were formed into a sub-division of that district to be known as the Khanewál Sub-Division, with head-quarters at Khanewál. **Two new sub-divisions.**

8.—Relations with Tributary States and Frontier Affairs.

I.—PHULKIAN STATES.

4. Lieutenant-Colonel B. E. M. Gurdon, C.I.E., D.S.O., gave over charge of the Agency to Mr. L. M. Crump, I.C.S., on the 30th August 1916. The post of Personal Assistant to the Political Agent remained vacant.

PHYSICAL AND POLITICAL GEOGRAPHY.

PATIALA.

Area, 5,412 square miles; population, 1,407,659; approximate revenue, Rs. 1 crore; army and police, 5,557; Maharaja Sir Bhupendra Singh, G.C.I.E., Sidhu Jat; age 26; has a male heir; salute, 17 guns.

Personal.

5. The health of His Highness the Maharaja remained good throughout the year. He attended the Chiefs' Conference at Delhi.

Administration.

6. Diwan Bahadur Daya Kishen Kaul, C.I.E., was appointed Foreign and Financial Secretary on the 17th July 1916, and Khan Bahadur Khalifa Sayyid Hamid Husain and Sardar Bhagwan Singh retired. During the year the State suffered a loss by the death, on the 27th February 1917, of Sardar Chaman Lal, Barrister-at-Law, Judicial Secretary. M. Nihal Singh, Extra Assistant Commissioner, Punjab, has been appointed as his successor.

The war.

7. During the year under report the Darbar continued to render active assistance in the prosecution of the war. Reinforcements to the Imperial Service Troops at the front were despatched as required; and the maintenance of the Imperial Service Troops on active service at the front cost the State an additional expenditure of more than Rs. 8¼ lakhs over and above the peace budget.

8. Substantial offers and contributions in connection with the war were made by the Maharaja and were accepted by Government. These included—

(1) A donation of Rs. 21,000 to the War Fund of the St. John Ambulance Association.

(2) Accommodation for War Hospitals or for convalescent sections of Indian Troops in certain buildings in the State territory.

(3) Two corps of mule-drivers and one camel corps at an approximate total cost of Rs. 4,15,113. Two corps of mule-drivers have already been despatched to Lucknow and Cawnpore respectively. Energetic recruiting parties, sent out to various States to make purchases, are engaged in bringing the camel corps to full strength.

(4) Valuable contributions and offers of *personnel*, horses and mules.

9. The Patiála Darbar have readily agreed to co-operate with the Government of India in the new system of recruiting for the Indian Army; and Patiála already supplies more men to the Indian Army than any State in the Indian Empire. The programme of enlisting recruits under the new system will be carried out by the State Agency. State Recruiting Officers are now permitted by Government to visit British territory for the purpose of enlisting recruits for the Imperial Service Troops. Sardar Gurbakhsh Singh, Commandant of the State Infantry, Imperial Service Troops, was granted the Second Class Order of British India, with the title of "Bahadur", for distinguished conduct in the field. A meeting under the presidency of His Highness the Maharaja at which leading Sikh gentlemen from all parts of the Punjab assembled, was held at Patiála on the 4th August 1916 on the occasion of the second anniversary of the entry of Great Britain into the war. His Highness made a most impressive and eloquent speech.

Crops and Irrigation.

10. Insufficiency of rain resulted in the rabi crop being below average; but the kharif crop generally was normal. The import of fodder at cheap rates cost the State about Rs. 41,000. The land revenue, however, was collected without difficulty and practically no suspensions

PHYSICAL AND POLITICAL GEOGRAPHY.

were granted. As regards irrigation, owing to heavy war expenditure, little money was available for improvements; but progress was made with an important telephone scheme, insuring more efficient control and better distribution of water. It is satisfactory to note that the kharif area on the Sirhind Canal and the rabi area on the Western Jumna Canal were the highest on record.

11. The figures for plague and cholera show a remarkable decrease in comparison with those of the preceding year. Public Health.

JIND.

Area, 1,259 square miles: population, 271,728; approximate revenue, Rs. 23 lakhs; army and police, 1,815; Maharaja, Sir Ranbir Singh, G.C.I.E., K.C.S.I., Sidhu Jat; aged 38; has no male heir; salute, 11 guns.

12. His Highness the Maharaja enjoyed excellent health during the year, and, except for a few days' visit to Dehra Dun during March 1917, resided almost the whole year in the State itself. There was no change in the administration. Personal.

13. The Jind Darbar continued to co-operate in the war with characteristic thoroughness. In addition to the assistance rendered during the preceding year, the Maharaja gave much valuable help in the way of men, money and animals, his contributions reaching a grand total of approximately Rs. 18 lakhs from the outbreak of the war up to the 31st March 1917. Notable contributions and subscriptions during the year under report included such items as a cash contribution of Rs. 1 lakh (in gold and silver coins); an expenditure of nearly Rs. $2\frac{1}{4}$ lakhs on the Jind Imperial Service Regiment at the front; a subscription of Rs. $5\frac{1}{2}$ lakhs to the War Loan; a present of 300 camels; and generous subscriptions to the War Hospital at Dehra Dun, the Lord Kitchener Memorial Fund, Lady O'Dwyer's Comforts for the Troops Fund and the Fund of the Young Men's Christian Association. The war.

14. The State Imperial Service Infantry lost in action in East Africa during the year 12 killed and 43 wounded. The total casualties from the commencement of the war now amount to 172. During the year the regiment fought in several actions. The distinctions received by officers and men included 3 Indian Distinguished Service Medals (one of the recipients being Major Bihara Singh); 1 Indian Order of Merit, 2nd class (Subadar Bhagwan Singh); 1 Medal of St. George, 2nd class; 1 Medal of St. George, 3rd class; and 1 Cross of St. George, 4th class. Subadar Harnam Singh, who was awarded the Indian Order of Merit, 2nd class, for gallantry in East Africa, and was a prisoner of war with the Germans for 20 months, returned to Sangrur on the 19th November 1916. Major-General Natha Singh, Sardar Bahadur, Commander-in-Chief, Jind State Forces, and Commanding the Regiment at the front, and Colonel Baldeo Singh, Imperial Cadet, Commandant of the Unit but second-in-command in the field, reached Sangrur on the 12th March 1917 after being on service for $2\frac{1}{2}$ years. The wise and generous care of its soldiers taken by the State is evidenced by recent grants of free rations, increases in the pay of troops, war pensions to officers and men invalided and family pensions to the heirs of those fallen on the battlefield or who have died on active service.

15. A rather late monsoon militated against the success of the kharif crop, but the rabi outturn was expected to be above normal, and prices of foodstuffs were on the whole fairly satisfactory. Last year's scarcity of fodder was repeated in the early part of the year under report, and the Darbar continued its arrangements for import at cheap rates until timely rains at the commencement of July 1916 obviated the necessity Crops and agriculture.

PHYSICAL AND POLITICAL GEOGRAPHY.

for such assistance. Except for a negligible amount, the total revenue demand for the year was realised.

Public Works.

16. The Jind-Panipat Railway was opened for traffic on November 1st, 1916; the contribution by the Darbar during the year towards the construction of this line amounting to nearly Rs. 2 lakhs. An average of 7·2 per cent. on their total investments of Rs. 50¼ lakhs in railways was received by the Darbar; though a reduction in their earnings was the result of the reduction of traffic due to military exigencies. Demands arising from the war necessitated curtailment of expenditure as regards other public works; but approximately Rs. 1 lakh was spent on the completion of the King George Coronation Wing of the Victoria Golden Jubilee Hospital at Sangrur and on the works for the drainage of Sangrur town.

Miscellaneous.

17. There was a satisfactory increase in the number of Co-operative Credit Societies. The relations between the State and the British Police remain most cordial and the valuable assistance rendered by the State Police has been warmly acknowledged by the Punjab Government. Stringent measures were taken by His Highness the Maharaja for the proper surveillance of undesirable returned emigrants from the Far East, Canada and America.

NABHA.

Area, 928 square miles; population, 248,887; approximate revenue, Rs. 19½ lakhs; army and police, 1,532; Maharaja, Ripudaman Singh, Sidhu Jat; aged 34; has no male heir; salute, 11 guns.

Personal.

18. His Highness the Maharaja enjoyed good health during the year, and spent the summer at Dehra Dun and Mussoorie as usual. He attended the Chiefs' Conference at Delhi.

Administration.

19. There were numerous changes of officials from one post to another; but no special remarks are called for.

Crops.

20. Owing to deficient rains the crops were poor.

Railways.

21. The question of the cession of jurisdiction by the Maharaja over lands occupied by the Rajputana-Malwa and North-Western Railways in his territory, which had been pending since the year 1912, was disposed of.

II.—STATES OF THE BAHAWALPUR AGENCY.

22. Lieutenant-Colonel A. C. Elliott, I.A., made over charge of the agency to Mr. W. C. Renouf, I.C.S., on the 16th December 1916.

BAHAWALPUR.

Area, 15,000 square miles; population, 780,641; approximate revenue, Rs. 40 lakhs; army and police, 2,068; Nawab, Sadiq Muhammad Khan, Abbasi, V, Daudputra; aged 12; salute 17 guns.

Personal.

23. There has been a steady improvement in the health of His Highness the Nawab following on his attack of enteric in 1915. His progress was retarded by adenoids and tonsilitis, but an operation in January was entirely successful, and excellent results are apparent. He won three prizes at the last annual examination held at the Aitchison Chiefs' College.

24. The State continues to be administered with success by the Council of Regency. The only change in the Council was the reversion of Nawab Malik Talib Mehdi Khan, Revenue Member, to the Punjab, and the appointment of Nawab Malik Khuda Bakhsh Khan to succeed him. Administration.

25. A draft of Imperial Service Troops consisting of one Jemadar and 50 rank and file was sent to the front to reinforce the camel escort. The escort which is employed in Egypt as infantry has done very well. The Darbar continued to show a most loyal and helpful attitude. They contributed Rs. 10,000 towards war comforts, Rs. 2,000 towards the proposed monument to Indian soldiers at Brighton and Rs. 5,000 to the Young Men's Christian Association for the benefit of the Indian Divisions in France. State houses at Lahore and Multan were offered for convalescent officers. Tents were also placed at the disposal of Government. The Darbar supplied 20 horses selected by Major Anderson of the Army Remount Department, free of charge, to Government, for their artillery requirements and 217 camels and 4 ponies with equipment. Officers and men were also recruited from the State for the Mesopotamia Railway Camel Corps. A centre of the St. John Ambulance Association was organised in January last. The Indian Army Order of the 18th January 1915 regarding wound and injury pensions and gratuities and the Army Recruiting rules were introduced into the State during the year. The war.

26. The rabi crop during the year under report was below average, but the kharif, in spite of the damage sustained from heavy rains in August, was satisfactory. Settlement operations in the Minchinabad District are proceeding satisfactorily. Crops.

27. A Commission, presided over by the Commissioner of Multan and attended by representatives from Sind, Bahawalpur and Dera Ghazi Khan, met in the Dera Ghazi Khan District to discuss the Guddu Dhand question and arrived at a unanimous finding as to future working which is now under the consideration of the various authorities concerned. The question of the permanent boundary with Sind was also discussed there with the Sind authorities. The extradition arrangements between Bahawalpur and Bikaner have at last been finally settled and approved of by Government. Miscellaneous.

28. The Water Works and Electric Light Schemes have been unavoidably delayed by the difficulty in obtaining plant from England during the war. The Khanpur-Chachran Railway has now been open for six years; but it has not attracted the traffic which was expected when it was constructed, and it appears, from the report of the Senior Inspector of Railways, to be worked at a considerable loss.

MALER KOTLA.

Area, 167 square miles; population, 71,144; approximate revenue, Rs. 13 lakhs; army and police, 1,026; Nawab, Sir Muhammad Ahmad Ali, Khan Bahadur, K.C.S.I., Pathan; aged 36; has a male heir; salute, 11 guns.

29. The Nawab enjoyed good health throughout the year. His loyal services during the war were recognised by the grant of the rank of Honorary Major in the Indian Army and the increase of two guns in his permanent salute. His Highness visited Mashobra and Simla during the hot weather and while at the latter place paid informal visits to His Excellency the Viceroy and His Honour the Lieutenant-Governor. A niece of His Highness married His Highness the Nawab of Baoni in Central India. The heir-apparent and his brothers under the control of their tutor, Mr. Wakefield, are reported to be making good progress in their education. Miss Allsop continued to be in charge of the Personal.

PHYSICAL AND POLITICAL GEOGRAPHY.

two younger sons of the Nawab. The fourth Begam of the Nawab died of consumption at Mashobra on the 10th July. His Highness' second daughter died of enteric fever at Maler Kotla on the 31st August. The Nawab attended the Chiefs' Conference at Delhi in the autumn.

Administration.

30. There was no important change in the administration of the State except that Khan Bahadur Sayyid Abdullah, B.A., Foreign Minister, was made Home Minister, and Shaikh Muhammad Zafar Ali appointed as officiating Foreign Minister in his place.

The war.

31. During the year the Darbar gave Rs. 1,000 each to the Kitchener Memorial Fund, the St. John Ambulance Fund and Lady O'Dwyer's Fund for comforts for the troops. Other offers made by the Darbar and accepted by Government included "The Crags" at Simla for the use of convalescent officers, and offers of *personnel*, horses and mules. The Darbar bore all expenses in regard to these offers. The 1st Company of Imperial Service Sappers is in Mesopotamia with Indian Expeditionary Force "D," and is well above strength. In spite of reinforcements numbering 423 men from the Second Reserve Company sent to Mesopotamia during the year, the Company remained at full strength at headquarters.

FARIDKOT.

Area, 642 square miles; population, 130,294; approximate revenue, Rs. 12½ lakhs; army and police, 371; Raja, Brij Indar Singh, Barar Bans, Jat; aged 20; has a male heir; salute, 11 guns.

Personal.

32. His Highness enjoyed excellent health throughout the year, having spent the hot weather in Simla and Dalhousie as in 1915. His Highness' great-grandmother died on the 7th July 1916 at the ripe age of 100 years. The Raja, by special permission, attended the Chiefs' Conference in the autumn of 1916, a month before his investiture.

Administration.

33. The State continued to be administered by Rai Bahadur Ganga Sahai as Superintendent under the guidance of the late Political Agent Lieutenant-Colonel A. C. Elliott, I.A., up to the 24th November 1916, when the Raja was invested with the full powers of a Ruling Chief at a formal Darbar held by His Honour the Lieutenant-Governor. Since his investiture, His Highness has carried on the administration of the State with the aid of his Secretaries, including Rai Bahadur Ganga Sahai, whose services have been lent for a year as Chief Secretary and Diwan, and whose experience is of great value to the Darbar. He is displaying the closest personal interest in the conduct of the affairs of his State, and shows high promise as an administrator.

The war.

34. The Imperial Service Sappers Company continued to render excellent service in British East Africa. The Company was mentioned in despatches three times, and received high praise from General Smuts. Five reinforcements were sent during the year. In response to a special call in the autumn, the Darbar took special measures for the recruitment of sarwans and muleteers, and supplied 401 men. His Highness' wholehearted efforts to assist Government in regard to the prosecution of the war have been most gratifying; and the long list of patriotic contributions offered by the State and accepted by Government include the cost of four motor ambulances (Rs. 36,000); "Ravenswood," the Raja's Simla residence, placed at the disposal of the Government of India; a contribution towards the cost of the *Gurdwara* to be built at Basra; subscriptions to various war funds; and considerable expenditure in connection with *personnel*, horses, camels and mules.

Miscellaneous.

35. In honour of his investiture His Highness remitted a sum of Rs. 3¼ lakhs of arrears of land revenue. Charitable contributions made by the Darbar included an item of Rs. 16,000 announced at the Sikh Educational Conference at Lahore.

III.—STATES OF THE JULLUNDUR DIVISION.

KAPURTHALA.

Area, 630 square miles; population, 268,133; approximate revenue, Rs. 30 lakhs (inclusive of about Rs. 16 lakhs income from Oudh estates); army and police, 2,416; Maharaja, Sir Jagatjit Singh, Bahadur, G.C.S.I., Ahluwalia Sikh; aged 44; has a male heir; salute, 11 guns; tribute, Rs. 1,31,000.

Personal and Administration.

36. His Highness the Maharaja spent the year in his State with a visit to Mussoorie during the hot weather. Khan Bahadur Mian Abdul Hamid remained in office as Chief Secretary and the administration of the State was carried on very successfully, and was marked by hearty co-operation with the British authorities on all questions.

The war.

37. The offer of the Maharaja for the purchase of motor ambulance launches at a cost of Rs. 25,000 was accepted during the year. He also made the following offers, which were communicated to the Government of India:—

(1) Fifteen beds in the Military Hospital at Kapurthala for the treatment of wounded or convalescent men of the Indian Army—(noted in case of future need).

(2) A contingent of 50 fully equipped camels for use in connection with the War—(accepted).

38. His Highness continued to devote attention to the interests of his Imperial Service Troops which have done valuable service in the field in East Africa.

MANDI.

Area, 1,200 square miles; population, 181,110; approximate revenue, Rs. 7 lakhs; army and police, 360; Raja, Jogendra Sen, Rajput Mandal; minor; salute, 11 guns; tribute Rs. 1,00,000.

Personal.

39. The Raja left Queen Mary's College for the Aitchison College, Lahore, in October 1916. Mr. Parker Gilmore was appointed His Highness' tutor.

Administration.

40. Mr. H. W. Emerson, I.C.S., remained in charge of the State during the year, with Munshi Ganda Mal as Assistant Superintendent; and valuable work was done in bringing the land revenue settlement to a conclusion, and in connection with the forest settlement, the abolition of *begar* and other matters of importance. His Honour the Lieutenant-Governor visited the State in October 1916, and discussed various administrative matters with the Superintendent and officials of the State.

Miscellaneous.

41. The management of the salt quarries by the Darbar continues to produce increasingly good results. The year was marked by the trial of the Mandi branch of the Lahore Conspiracy Case, in which all the chief offenders were brought to justice.

SUKET.

Area, 420 square miles; population, 54,928; approximate revenue, Rs. 2½ lakhs; army and police, 78; Raja, Bhim Sen, Rajput, aged 32; has no male heir; salute, 11 guns; tribute, Rs. 11,000.

The war.

42. His Highness has offered inducements for his subjects to enlist and has also offered a contingent of fifty men under the command of his uncle, Mian Ganga Singh, for the service of the Empire. He also offered to provide accommodation for 50 wounded and invalided Indian soldiers returning from the front but Government were unable to accept the offer owing to the difficulty of access to Suket.

Miscellaneous.

43. His Honour the Lieutenant-Governor visited the State in October 1916.

IV.—LAHORE DIVISION.

CHAMBA STATE.

Area, 3,216 square miles; population, 135,873; approximate revenue, Rs. 3,89,000; army and police, 419; Raja, Sir Bhure Singh, K.C.S.I., C.I.E., Hindu Rajput; has a male heir; aged 48; salute, 11 guns; tribute, Rs. 2,225.

Personal and administration.

44. His Highness maintains a high standard of administration. During October-November 1916 His Honour the Lieutenant-Governor paid a visit to the State.

Miscellaneous.

45. Among other matters which engaged the Raja's attention were the Sham Singh Hospital at Chamba, and the extension of the polo ground at Bankihet below Balun Cantonment, so as to provide a suitable place to be used by the troops for parades and recreation.

V.—STATES OF THE AMBALA DIVISION.

SIRMUR (NAHAN).

Area, 1,198 square miles; population, 138,520; approximate revenue, Rs. 6 lakhs; army and police, 633; Raja, Sir Amar Prakash, K.C.S.I., Rajput; aged 28; has male heir; salute, 11 guns.

Personal and administration.

46. His Highness continued to supervise the administration of his State in his usual able manner. He attended the Chiefs' Conference at Delhi in October 1916; and, during his stay at Simla in September of that year, paid informal visits to Their Excellencies the Viceroy and Commander-in-Chief and His Honour the Lieutenant-Governor of the Punjab.

The war.

47. The Darbar has undertaken to reconstitute the double company of Imperial Service Sappers and Miners to replace the force captured by the Turks at Kut-ul-Amara. The Darbar further made an offer of a bungalow at Kaulagarh Tea Estate, Dehra Dun, for use as a War Hospital; and the Raja's offer of the Bantony Estate at Simla for use as military offices has been accepted by Government.

KALSIA.

Area, 168 square miles; population, 55,909; approximate revenue, Rs. 2,74,000; army and police, 164; Raja, Ravi Sher Singh, Jat Sandhu Sikh; aged 14; no male heir.

Personal and administration.

48. Raja Ravi Sher Singh is doing well at the Aitchison College, Lahore, and has enjoyed very fair health. He is, however, somewhat

PHYSICAL AND POLITICAL GEOGRAPHY.

weakly and finds the hot weather trying. He went to Mussoorie early in May and stayed till the end of September. Mr. P. M. Lawlor has been appointed as his tutor. The Political Agent visited the State in October 1916 to present the Sanad conferring the title of Raja on the Chief.

49. The State is managed by the Council of Regency consisting of a lent officer as President, and two members. The Excise agreement between the Kalsia State and British Districts of Ambala and Ferozepore has been executed for a further period of five years on payment to the State of Rs. 12,000 per annum instead of Rs. 8,000 paid during the expired period. The Kalsia Forest working plan was revised by the Deputy Conservator of Forests, Simla Division.

The war. 50. During the year the Darbar subscribed Rs. 750 to the Brighton Memorial, Rs. 1,000 to the *Gurdwara* at Basra, and Rs. 10,000 to other war funds. An offer of a house at Abdullahpur and of one at Bassi (Dera) for use as hospitals for the wounded was also made and has been noted. The Council also proposed forming a signal unit of 25 men for active service, but the proposal was dropped after consultation with the Military authorities.

PATAUDI.

Area, 52 square miles; population, 19,543; approximate revenue, Rs. 1 lakh; army and police, 77; Nawab, Muhammad Ibrahim Ali Khan, Bahadur, Pathan; aged 29; has a male heir.

Personal and administration. 51. The State is being efficiently administered by Nawab Muhammad Ibrahim Ali Khan with Khan Bahadur Nasir Ali Khan as his Diwan. The Nawab visited Mussoorie in July 1916. A European governess has been employed for the Nawab's son.

LOHARU.

Area, 222 square miles; population, 18,597; approximate revenue, Rs. 90,400; army and police, 80; Nawab, Sir Amir-ud-din Ahmad, Khan Bahadur, K.C.I.E., Mughal; aged 57; has a male heir; personal salute, 9 guns.

Personal and administration. 52. Nawab Sir Amir-ud-din Ahmad Khan, K.C.I.E., administers the State himself. His son, Mirza A'izz-ud-din Ahmad Khan, is Financial Administrator. The Chief was at Simla in September 1916 on a private visit for a fortnight. The Nawab's mother died in August 1916. His youngest son is studying at the Mayo College, Ajmere. An income-tax was introduced in the State with effect from April 1917. There is a likelihood of the Jaipur State Railway line passing through the Loharu State territory.

The war. 53. The Darbar gave fifty more camels and eight mule-drivers for war services.

DUJANA.

Area, 100 square miles; population, 25,485; approximate revenue, Rs. 77,170; army and police, 122; Nawab, Muhammad Khurshaid Ali Khan, Bahadur, Pathan; aged 32; has a male heir; tribute 50 cavalry on requirement.

Personal and administration. 54. The Nawab administers the State. His Honour the Lieutenant-Governor paid a short informal visit to Dujana in August 1916.

The war. 55. In addition to the 50 camels already given by the State the Darbar made an offer of 10 horses.

VI.—STATES UNDER THE POLITICAL CONTROL OF THE SUPERINTENDENT, HILL STATES, SIMLA.

Correction of an error. 56. Owing to a misprint in last year's report the Rana of Koti was shown as a tributary of Bashahr, instead of as a tributary of Keonthal.

PHYSICAL AND POLITICAL GEOGRAPHY.

57. The chief particulars of the Simla Hill States are given in the following table :—

No.	State.	Areas in square miles including feudatories.	Population in 1911.	Approximate revenue.	Tribute.	Name of Chief.	Race.	Age.	Title.	Whether male heir or not.	Military forces and police.	Remarks.
				Rs.	Rs.							
1	Biláspur	448	98,107	3,33,425	8,000	Bijai Chand, C.S.I.	Rajput	44	Raja	Yes	204	Permanent salute, 11 guns.
2	Bashahr	3,820	88,957	1,44,442	3,945	Padam Singh	Do.	43	Do.	Yes (adopted)	13	
3	Nálagarh	256	49,230	1,57,460	5,000	Jogindar Singh	Do.	47	Do.	No	48	
4	Keonthal	116	25,354	1,00,971	...	Hamendar Sen	Do.	12	Do.	No	36	
5	Baghal	124	26,008	68,976	3,600	Bikram Singh	Do.	24	Do.	Yes	25	
6	Bhagat	36	8,797	50,000	...	Durga Singh	Do.	16	Rana	No	43	
7	Jubbal	288	23,627	1,98,063	2,520	Bhagat Chand	Do.	28	Do.	Yes	19	
8	Kumhársain	90	12,219	30,000	2,000	Vidyadhar Singh	Do.	22	Do.	No	7	
9	Bhajji	96	14,972	33,504	1,440	Bir Pal	Do.	11	Do.	No	32	
10	Mailog	48	8,663	37,783	1,440	Durga Chand	Do.	19	Thakur	No	16	
11	Balsan	51	6,225	18,500	1,080	Bir Singh	Do.	53	Rana	Yes	...	
12	Dhami	26	4,484	30,000	720	Hira Singh, C.I.E.	Do.	40	Do.	Yes	25	
13	Kothár	20	4,016	17,000	1,000	Jagjit Chand	Do.	30	Do.	Yes	8	
14	Kunihár	80	2,208	6,000	180	Hardeo Singh	Do.	19	Thakur	No	9	
15	Mangal	12	1,267	1,000	72	Tilok Singh	Do.	66	Rana	Yes	...	
16	Bija	4	1,064	5,000	124	Puran Chand	Do.	21	Thakur	Yes	8	
17	Darkoti	8	521	7,000	...	Ram Saran Singh	Do.	74	Rana	Yes	...	
18	Taroch	67	4,498	50,000	288	Surat Singh	Do.	30	Thakur	Yes	...	
19	Sangri	16	3,022	5,700	...	Hira Singh	Do.	66	Rai	Yes	...	Tributaries of Bashahr.
20	Kaneti	19	2,854	8,590	...	Amog Chand	Do.	26	Thakur	No	...	
21	Delath	42	1,392	2,743	...	Narindar Singh	Do.	67	Do.	Yes	...	
22	Koti	50	8,265	44,154	...	Raghbir Chand	Do.	57	Rana	Yes	56	Tributaries of Keonthal.
23	Theog	144	6,345	14,591	...	Padam Chand	Do.	31	Thakur	Yes	8	
24	Madhan	9	3,901	5,500	...	Randhir Chand	Do.	30	Do.	No	6	
25	Ghund	28	1,887	5,610	...	Ranjit Singh	Do.	34	Do.	Yes	...	
26	Ratesh	12	472	700	...	Hira Singh	Do.	49	Do.	Yes	...	Tributaries of Jubbal.
27	Ráwin	7	749	4,591	...	Kidar Singh	Do.	40	Do.	Yes	...	
28	Dhádi	25	244	1,600	...	Dharm Singh	Do.	29	Do.	Yes	...	

58. *Biláspur.*—The Raja paid a visit to Burma, Bengal and other parts of India. Rai Sahib Durga Singh, Wazir of the State since 1909, was succeeded in 1916 by Diwan Indar Singh, late President of the Nálagarh Council. Owing to the Raja's activities 503 recruits have been enlisted from the State since the beginning of the war.

59. *Bashahr.*—The Tikka Sahib is doing very well at the Aitchison College. Mr. Mitchell, I.C.S., whose term of office was extended for a further year at the request of the Raja continued to act as Manager. Recruiting seems likely to become popular with the Kanaits of the State.

60. *Nálágarh.*—The Raja has no heir and has been unable to arrange a marriage for his daughter. The State has furnished 52 recruits to the Army.

61. *Keonthal.*—The youngest daughter of the late Raja was married to the Tikka of Vizianagram. Rai Sahib Mian Amar Singh has been succeeded as Manager by M. Sher Singh, lately Wazir of Jubbal. Stricter control and amalgamation of the management of reserved and undemarcated forests are paving the way for a considerable increase in the forest

revenue. The acquisition of the Chair catchment area has been sanctioned by Government on payment of an annual cash compensation.

62. *Baghal.*—Arrangements are being made for the Tikka, who is now 8 years of age, to be sent to Queen Mary's College. Lala Kharku Ram has been replaced as Manager by Rai Sahib M. Durga Singh, previously Wazir in Biláspur. The State has supplied 25 recruits for the army.

63. *Bhagat*—During the year the State subscribed Rs. 6,400 to Government in aid of the expenses of the war, and supplied 16 recruits.

64. *Jubbal.*—A third son and a daughter have been born to the Rana. The Rana has collected some 60 recruits.

65. *Kumhársain.*—Both the Rana and the Rani have been ill during the greater part of the year. A second son was born to the Rana during the year, but died after a few days.

66. *Bhajji.*—The Rana has been sent to the Aitchison College where he is doing well.

67. *Mailog.*—The health of the Thakur was indifferent during the summer. It is hoped to arrange his betrothal with the elder sister of the Raja of Baghal.

68. *Balsan.*—The son of the Rana, who was born in 1915, has died.

69. *Dhami.*—The Rana has finished the settlement of his State.

70. *Kothár.*—The Rana is completing the settlement of his State. He has contributed Rs 5,000 to war funds.

71. *Kunihár.*—The Thakur's younger brother has been married to the sister of the Thakur of Bija.

72. *Taroch.*—The Tikka Sahib has been sent to the Aitchison College.

73. *Koti.*—The settlement report has been submitted to Government for orders. The daughter of the Rana has been married to the Tikka Sahib of Suket. A few recruits have come forward from the State.

FRONTIER AFFAIRS.

74. The year has been a comparatively quiet one. The only really important case was a raid on Mangrotha by a gang of well-armed Pathans in September 1916. They were tracked into Baluchistan territory and the Baluchistan authorities are still unsuccessfully investigating the case. Under the orders of Government a Conference was held in December 1916 to report on complaints by the Sind authorities against the construction of a regulator in the Guddu Dhand by the Hon'ble Nawab Sir Bahram Khan, K.C.I.E., Mazari. Representatives of the Punjab, Sind and the Bahawalpur State attended and a report was submitted. The orders of Government had not been received at the close of the year.

75. Sardar Lashkar Khan's administration of the Gurchani Tuman was not entirely satisfactory. The young Sardar Jamal Khan, Tumandar of the important Leghari tribe, has shown considerable improvement. He now takes great interest in his duties, and during the year was invested with 1st Class powers. He is now on good terms with his cousin Khan Bahadur Sardar Din Muhammad Khan, C.I.E., who assists him in the tribal administration. Sardar Mubarak Khan has died and has been succeeded as Tumandar of the Khosas by his cousin Sardar Ghulam Haidar Khan. The new Tumandar is young and well intentioned. If he develops into a good Chief this notoriously ill-behaved tribe may improve. The title of Khan Bahadur was conferred on Sardar Ghulam Husain Khan, Sori Lund Tumandar, in January 1917. Sardar Mahmud, grandson of the aged Tumandar of the Kasranis, who was acting for his grandfather, has for some time past been addicted to drugs. In October 1916, he murdered his wife. He has been found to be insane and is now incarcerated in a criminal lunatic asylum. Sardar Imam

PHYSICAL AND POLITICAL GEOGRAPHY.

Bakhsh Khan, second son of the Tumandar, has been selected to act as Tumandar and has been given 3rd Class powers. There were two notorious Kasrani outlaws at large at the commencement of the year, both named Bungal. One has been shot and the others arrested, tried and convicted. There is now peace in the Kasrani country. Sardar Paind Khan, acting as Tumandar of the Bozdars for his aged and infirm father, continues to do well. The behaviour of this tribe has been good.

76. The Jirga system has worked as satisfactorily as last year. The Chiefs' Jirga under the able presidency of the Hon'ble Nawab Sir Bahram Khan, K.C.I.E., has done excellent work both in district cases and in cases with the neighbouring Baluchistan agencies. The amount of fines and compensations outstanding has been reduced, but still is large, and the matter is receiving due attention from the Deputy Commissioner. Jirgas are somewhat prone to recommend compensation which is out of proportion to the accused's means, and this accounts to a great extent for the large unrealised balances.

9.—Condition of the People.

77. The year was a healthy one except in the last quarter when owing to the heavy and prolonged monsoon rains malaria was prevalent and caused a high mortality. The general birth-rate was 2 *per mille* above that of the previous year and was the highest in India for the year under report, and the highest for the province for the last 14 years. The death-rate was 5·6 *per mille* below that of the previous year. The improvement in the birth and death rates was due to the mild incidence of plague and cholera during the year. The incidence of plague was the mildest since 1900.

78. The good autumn harvest and the prevalence of high prices brought prosperity to the agricultural population. The high level of wages was maintained and the labouring classes benefited accordingly. In a few districts labour was scarce owing to continuous recruitment for the army. In spite of the war, perhaps to some extent in consequence of it, the agricultural condition of the Punjab was distinctly prosperous.

CHAPTER II.

ADMINISTRATION OF THE LAND.

Detailed information on the subjects dealt with in this Chapter will be found in the reports and statistical tables noted below : —

PROVINCIAL REPORTS.

Realization of the Revenue— *Revenue Surveys and Settlements—* } Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1916.

Professional Surveys.—General Report on the Operations of the Survey of India for the year ending 30th September 1916.

Waste Lands and Government Estates. { 1. Annual Report on the Punjab Colonies for the year ending 30th September 1916. 2. Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1916.

Wards' Estates.—Report on the Administration of Estates under the Court of Wards in the Punjab for the year ending 30th September 1916.

Revenue and rent-paying classes.—Report on the Land Revenue Administration of the Punjab for the year ending 30th September 1916.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agricultural Statistics of India, Volume I.

Area Totals—Table 1 J.
Classification of Area—Table 2 I.
Incidence of Land Revenue—Table 5 I.
Transfers of Land—Table 6 H.
Changes in Boundaries—Appendix B.

10.—Realization of the Revenue.

FIXED LAND REVENUE.

79. The fixed land revenue demand rose from Rs. 217 lakhs to over Rs. 226 lakhs. New assessments in Kángra, Hoshiárpur, Jullundur, Siálkot and Gujrát accounted for an increase of Rs. 12 lakhs while another lakh was due to the formation of new estates in Gujránwála. A nominal decrease of Rs. $4\frac{1}{4}$ lakhs was due to the erroneous exclusion of new assessments in two tahsils of the Siálkot District from the fixed revenue roll. Leaving out of account the amount under suspension at the end of the year and irrecoverable and undetermined balances, the whole of the demand put down for collection was recovered with the exception of Rs. 8,000, and this was effected without recourse to the issue of coercive processes on an abnormal scale. Owing to the failure of the monsoon, suspension of revenue had to be granted on an unusually lavish scale especially in the Hissar, Gurgaon and Rohtak Districts, and altogether about Rs. 12·77 lakhs were suspended as compared with less than Rs. 1·5 lakhs in the previous year and an average of about Rs. 5 lakhs. **Demand and collection.**

80. The action of the rivers resulted in a net addition of Rs. 10,000 to the fixed revenue roll. The total assessable area of the province was increased through alluvion by 9,000 acres and the revenue demand was enhanced on account of improvement by deposit of silt on 53,000 acres, while it was reduced for deterioration on only 15,000 acres **Reverain action.**

FLUCTUATING LAND REVENUE.

81. Collections of true fluctuating revenue fell by nearly Rs. $6\frac{1}{2}$ lakhs to about Rs. 122 lakhs, the decrease being due to the failure of the rains and low river floods which prejudiced the working of inundation canals, particularly in the Ferozepore, Shahpur, Multán and Montgomery Districts. **Demand and collection.**

OTHER LAND REVENUE.

82. Collections of "other land revenue" amounted to Rs. 38·3 lakhs, a decrease of over Rs. 3 lakhs as compared with the previous year. This falling off was due partly to the continually decreasing amount realized for purchases of proprietary right in the older colonies and partly to the contraction of receipts from single harvest leases which marks the progress of permanent allotment in the Lower Bari Doab Colony. Income from the **Demand and collection.**

ADMINISTRATION OF THE LAND.

sale of Government waste lands amounted to about Rs. 25·75 lakhs, about the same as in the previous year.

MISCELLANEOUS.

83. In spite of the trying conditions of the year the number of coercive processes issued fell by 10 per cent. to 16,129, of which about 11,000 were merely writs of demand. In only 10 cases was resort to imprisonment necessary and in only three was immoveable property attached. The Multán Division again accounted for more than half the total number of processes, a result of the continued efforts which are being made to enforce punctuality of payment. In Lyallpur where a demand of 1¼ crores of rupees was collected, only 138 processes had to be executed, a most striking proof of the prosperity of the district and of the good effects of insisting on punctual payment from the outset.

11.—Professional Surveys.

Surveys.

84. Riverain surveys were carried out by the Punjab Riverain Detachment of the Survey Department on the Sutlej, Beas and Indus in connection with the Ambála, Jullundur, Kángra and Dera Gházi Khan settlements. The work included 155 linear miles of main circuits and 751 of minor traverses, and 4,431 theodolite stations were fixed in an area of 559 square miles which is under water action. One hundred square miles were demarcated with permanent mark stones in the Kángra, Hoshiárpur and Gurdáspur Districts. Settlement Officers were supplied with 852 plotted and 142 boundary sheets, at a cost of Rs. 28,706. The Kángra special survey under the same party traversed and triangulated 2,162 linear and 300 square miles of the district area and 12,067 stations were fixed by theodolite in 575 hamlets. 3,542 plotted sheets of 792 hamlets were supplied to the Settlement Officer at a cost of Rs. 43,881. The same party completed work in the Kotgarh Tahsil of Simla; they traversed and triangulated 1,066 linear and 15 square miles and fixed 1,153 stations by theodolite. Two hundred and fifty-six plotted sheets of 70 villages were supplied to the Settlement Officer at a cost of Rs. 3,033. Minor operations included special surveys of the Attock oil fields, of the Kángra road and of the Lahore Cantonment boundaries, at a total cost of Rs. 2,267.

85. Topographical survey operations were continued and an area of 2,206 square miles on the scale of 1 inch to the mile in the Gurgaon, Hissar and Rohtak Districts, and in Dujána, Jínd, Loháru, Nábha, Patiála and Pataudi States was surveyed.

Boundary delimitation.

86. The case of the fixed boundary on the Jumna has not progressed since last year's report. A boundary dispute between villages of Gurgaon and Alwar State remained unsettled at the close of the year, and a dispute between a village of the Hissar District and Bíkáner State and three cases between the Jullundur District and Kapúrthala State are pending. The boundary of the Jammu State and the Gurdáspur District has been finally settled, but there are questions outstanding in connection with Siálkot. An area in dispute between the Miánwáli and Kohat Districts has been left till next settlement as a common grazing ground to the villages concerned, as it was found that it would require an extensive survey to determine to which of the two districts the debateable land belonged. A dispute between Miánwáli and Bannu still awaits disposal.

12.—Revenue Surveys and Settlements.

87. At the close of the previous year measurements and record work remained in progress in the settlements of the Gujrát, Jullundur, Simla and Kángra Districts. During the year they were completed in the first two, while in Simla the record-of-rights has been finally attested in all but a few villages. *Killabandi* was completed in Gujrát except in a few villages. In Kángra attestation was finished in the Pálampur Tahsil but much remains to be done before the record-of-rights is complete.

88. Orders were passed on the assessment reports of the Simla and Kot Khái *ilaqas* in the Simla District, and of the Jullundur, Nakodar, Nawashahr and Phillaur Tahsils and of the urban areas of the Jullundur District either during the year or shortly after its close. In Kángra orders were passed on the assessment reports of the Pálampur and Kángra Tahsils during the year. Orders were also passed on the assessments of the Lahore Tahsil and of town lands in the Lahore District, the demands announced and the distribution completed.

89. Orders were passed on the final reports of the Chenab Colony, Lahore, Gujrát, Ferozepore and Hoshiárpur-Una settlements. The Ferozepore settlement was confirmed for 30 years subject to the proviso that if within that time a new large canal taking out of the Sutlej is constructed, the settlement of the villages commanded by it shall be revised. The settlement was completed in 4½ years at a cost of Rs. 4⅓ lakhs and the net annual increase of Government revenue will eventually be between Rs. 5½ and 6 lakhs. The Hoshiárpur settlement was also confirmed for 30 years. It cost Rs. 5½ lakhs and took 4½ years to complete, and resulted in an enhancement of the demand by Rs. 4¼ lakhs. The term of settlement of the Dera and Hamírpur Tahsils of Kángra has been fixed at 30 years, but detailed orders on the report have been deferred pending the completion of settlement operations in the other tahsils of the Kángra District. The duration and cost of each of the settlements and the enhancements taken in each will be found in Statements XIII and XIV appended to the report on the Land Revenue Administration of the Punjab for the year ending 30th September 1916. The cost of the Lahore settlement operations will be recovered in about two years from the enhancement and that of the Siálkot settlement in the same period. In Shahpur the enhancement of one year is nearly sufficient to defray the cost. In Gujrát, the least productive settlement, three years of the initial increase will meet the expenses of the operations. Settlement operations began in Ambála on the 1st October 1915 and in Dera Ghází Khan on the 1st October 1916.

13.—Land Records.

90. The conduct and efficiency of patwaris during the year was on the whole satisfactory. Dismissals were not in the main due to bad conduct but to inefficiency and absence without leave, which are to be attributed chiefly to the poor prospects of advancement. The block in promotion due to the necessity of absorbing a large number of settlement kanungos is however coming to an end and a return to the normal flow of promotion for patwaris may soon be expected. The educational qualifications of patwari candidates are steadily improving, and 44 per cent. of them possess at least middle school qualifications. Patwaris.

91. The closer attention paid to inspection and supervision of the work of kanungos is resulting in their gradual improvement. The experiment of empowering kanungos to attest mutations in cases of undisputed inheritance has been abandoned as infructuous The further experiment of confining the district kanungo solely to office work and stopping his touring is still in progress in the Hoshiárpur, Miánwáli, Gurgaon and Jullundur Districts. Kanungos.

92. During the year four settlements were brought to a close in the Shahpur, Gujrát, Lahore and Siálkot Districts. In the Jullundur, Kángra, Ambála and Simla Districts the revision of the record was in progress. The work was practically completed in Jullundur and has been proved to be good by inspection. The Pálampur Tahsil records are still incomplete and the system under which their preparation was postponed till the completion of measurements has been shown to be unsatisfactory. Records.

14.—Waste Land and Government Estates.

93. The Lower Jhelum Canal Colony is the only one of the older colonies which is now considered as a colony. In the Lower The old Colonies.

Chenab and Chúnián Colonies the process of allotment has been completed and they have reached a stage of development which puts them on a level with the older districts of the Province, and their exclusion from the scope of the annual report on Punjab colonies marks the close of the treatment of these areas as colonies and not merely as portions of the districts in which they are situated. In the Lower Jhelum Colony the working of the service conditions has been complicated by the problem presented by the numerous horse-breeding grantees who are minors. To meet this difficulty it has been arranged that if satisfactory arrangements have not been made by a minor tenant's natural or legal guardian, the Collector should leave not more than half the tenancy during such tenant's minority to any person who will undertake the horse-breeding obligation attaching to the tenancy.

The Upper Chenab Colony.

94. In the Upper Chenab Colony 24,000 acres out of a total allotable area of 81,000 acres still remain to be distributed. The allotment of the perennially irrigated area was practically concluded during the year and considerable progress was also made with the area which receives irrigation only for the autumn crop. Revised arrangements for the colonisation of this area are now being made with a view to removing the difficulties which have so far stood in the way of success.

The Lower Bari Doab Colony.

95. In the Lower Bari Doab Colony the year was one of substantial progress. During the year 75,387 acres were allotted, including 14,442 acres sold by auction. The average price realised at the auction—Rs. 179 per acre for land irrigated by flow—was lower than in the previous year, but the quality of the land was inferior and the price suffered from the attempt to sell too much at once. A resurvey of the land on this colony has shown that the commanded culturable area amounts to about 320,000 acres less than was originally estimated. Most, however, of the special features of the scheme have already been provided for, and the year under report saw the allotment of the fourth of the large cattle farms—in this case for breeding Montgomery cattle—and a beginning made in the allotment of the hereditary landed gentry grants. A considerable portion of the land not immediately culturable by ordinary methods consists of saline lands which may eventually be rendered fit for cultivation by the methods of reclamation which have proved so successful on a small scale on an experimental farm near Lyallpur worked by the Agricultural Department. The eastern part of the colony now has a look of settled prosperity with comfortable villages, ample irrigation and excellent crop. Further west, where the soil is less fertile, the advance has been slower but progress is being steadily made.

Towns and Roads.

96. The programme of road construction is still steadily progressing and 103 miles of unmetalled and 6 miles of metalled road were completed during the year in the Montgomery District. In Multán 205 miles of unmetalled road have now been constructed and some metalling done in the approaches to the Khanewál Mandi. The new town of Okára is growing rapidly and sites have been sold at Chíchawatni. Plans for towns and markets at Khanewál, Mián Channu and Jahánián have also been sanctioned.

The Upper Jhelum Colony.

97. About two-thirds of the available area in the Upper Jhelum Colony have now been allotted, including about 4,000 acres granted in reward of services to the criminal administration in the Ráwalpindi Division and 7,200 acres for an irrigated plantation. Irrigation is now expected to begin and as the land is of good quality and favourably situated effective colonisation should be speedy.

15.—Wards' Estates.

98. Excluding the Basírpur estate, which was released on the death of the ward and resumed on behalf of his minor heirs, 7 estates were released from and 3 taken under management. The most important

ADMINISTRATION OF THE LAND.

of the estates released was that of the late Sardar Hardit Singh of Ráwalpindi, which was under management for 10 years. During this period Rs. 11¼ lakhs were spent on permanent improvements and the value of the assets increased by Rs. 17¼ lakhs. The amount invested in land by various estates was considerably less than in the previous year. Investments in loans and contributions to the Punjab Aeroplane and other war funds, charities and public institutions amounted to about Rs. 1 lakh or rather more than 5 per cent. of the total ordinary income of the estates. Nearly Rs. 2 lakhs were spent on permanent improvements and in various directions examples are being set of enlightened and public-spirited management. Three estates have sent employees for training to the Agricultural College at Lyallpur, and quarters are now being built there for the accommodation of any wards and other potential owners of large estates who may choose to complete their education by taking a course in scientific agriculture.

16.—Revenue and Rent-paying Classes.

99. The area of the Province entered in the revenue records is somewhat over 54½ million acres, of which more than half is cultivated. Fifteen million acres consist of common lands, village sites and Government property, and of the rest 34 million acres are owned by agricultural tribes and 5½ million acres by others. Re-measurement in the course of settlement operations has resulted in the large increase of 28,000 acres in the total recorded area of the Lahore District and less marked variations in Gujrát and Shahpur and re-measurements at the quadrennial attestations and alterations of district boundaries account for minor changes elsewhere; the decrease of 29,000 acres in the Dera Ghází Khan District is due to an error in past reported figures which has now been discovered. The increase in the cultivated area is largely due to colonization in Montgomery and Gujránwála. Cultivation has also considerably extended in Hissar, Karnál, Ferozepore, Lahore, Lyallpur, Jhang and Multán, but decreased largely in Miánwáli owing to the failure of the rains. The cultivated area under mortgage has slightly increased, but owing to the expansion of cultivation the percentage mortgaged has fallen from 11·6 to 11·5. General.

100. The demand for loans for land improvement was even smaller than in the previous year; less than Rs. 1½ lakhs was thus advanced, though the fact that 101 new wells were constructed during the year with *takavi* advances in the Ferozepore District is sufficient proof of what can be done by a judicious loan policy without attempting to create an artificial demand. The failure of the rains and the scarcity of fodder were responsible for a very large enhancement from about Rs. 2½ lakhs to Rs. 8 lakhs in the amount advanced under the Agriculturist Loans Act, 1884, and the liberal advances made in the districts of Gurgaon, Rohtak and Hissar enabled the cultivators to take advantage of the good monsoon of 1916 and to retrieve their position. Loans Act.

101. The cultivated area, 106,799 acres, sold during the year was the smallest recorded in the past 20 years, but there was a noticeable increase in the area of uncultivated land sold, 126,700 acres having been so transferred as compared with 86,690 acres in the previous year. Much of the increase is accounted for by extensive purchases of waste land made in the Thal portion of the Leiah Tahsil of Muzaffargarh in anticipation of the construction of the Sind Ságar Canal. A further larger area of waste amounting to nearly 20,000 acres was sold in that tract by the *ala maliks* or superior proprietors. The year under report is the second complete year of the working of the Redemption of Mortgages Act, and Statement XXVIII appended to the report on the Land Revenue Administration of the Punjab, 1916, shows that 2,708 cases were disposed of under this Act. Most district reports mention the working of the Act with favour as giving a simple means of redeeming small mortgages, but it cannot be said to have had an appreciable effect on the total cultivated area redeemed, the year's figure, 210,067 acres, being the lowest for the Transfers.

ADMINISTRATION OF THE LAND.

past 10 years. The cultivated area mortgaged was 227,396 acres and though this is less than in the previous year, it is the first time in the last five years that the area mortgaged has exceeded the area redeemed.

Value of land.

102. The average price of cultivated land rose from Rs. 180 to Rs. 216 per acre. This although not so high as the figure of 1913-14 is much higher than in any other preceding year. The figures do not, however, give a reliable indication of the real selling price of land owing to the fact that when cultivated and uncultivated lands are sold in one transaction there is no means of ascertaining the portion of the price which represents the value of the cultivated land. A provincial average price has indeed little real economic meaning in view of the wide variety of local conditions and of local prices which run from hundreds of rupees per acre for building sites near towns to less than a rupee in the Thal, but the fact that in the province as a whole the sale value of land represented 151 times the land revenue as compared with 144 times in the previous year and 63 times 20 years ago is a remarkable testimony to the steady and extraordinary rise in values within the present generation.

Land Alienation Act.

103. The only new tribe notified under the Land Alienation Act was the Muhial Brahmans of Attock. During the year agricultural tribes acquired by purchase a net increase of nearly 20,000 acres. The area sold by them—206,529 acres—has never been exceeded since the passing of the Act, but sales to them have only been surpassed in one year and in no year have the sales to others been so small. There was a net loss on mortgage by agricultural tribes of some 26,000 acres as compared with 8,000 acres last year. Unfavourable seasons contributed to the increase both of sales and of mortgages, and whereas in the case of sales wealthy agricultural tribesmen are the most ready, not to say eager, buyers, others are more commonly forthcoming as mortgagees, though the forms of mortgage permitted by section 6 of the Alienation of Land Act can scarcely be said to be popular among money-lenders. Cases of evasion of the Act exist, but are not very common.

Rent-Paying classes.

104. The number of suits for enhancement of rent (2,768) and that of successful suits (2,271) were both double the figures of 1914-15. As in the previous year, the number of suits instituted in the Gujrát District, 1,880, was higher than in any other district, a result of the new assessments. There was also a marked increase in Ferozepore and Sialkot in both of which districts it is noted that cash rents are rising with prices. There were 92 decrees for ejectments of occupancy tenants under section 39 of the Act, 66 of which were in Hoshiarpur and Shahpur, and in each case ejectment was actually made. The total number of ejectments of occupancy tenants actually made in the province was 96. There was a slight drop in the number of applications for service of notice to tenants-at-will, and the ejectments actually made fell from 6,099 to 4,831.

MISCELLANEOUS.

The Punjab Land Preservation (Chos) Act.

105. Financial considerations precluded any progress being made in the notification of further areas in Ambála and Hoshiárpur under the Punjab Land Preservation Act, but the herding and pasturing of camels in areas already notified under the Act in Hoshiárpur was forbidden during the year at a cost of about Rs. 12,000 for compensation to camel owners. Compensation awarded in Ambála in consequence of the notification of certain areas in the previous year under section 4 of the Act amounted to Rs. 82,000. The restrictions already imposed and the afforestation which has been effected are producing perceptible and valuable results in the two districts concerned.

The Descent of Jagirs Act.

106. The rule of primogeniture was notified under the Descent of Jagirs Act as existing in the Jagir of Malik Muhammad Yaqub Khan of Mitha Tiwana in the Shahpur District.

CHAPTER III.

PROTECTION.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Police.—(1) Report on the Police Administration of the Punjab for the year 1916.

(2) Report on the working of the Criminal Tribes Act for the year 1916.

(3) Report of the Chemical Examiner to Government, Punjab, for the year 1916.

Criminal Justice.—Report on the Administration of Criminal Justice in the Punjab and its Dependencies during the year 1916.

Prisons.—Report on the Administration of the Jails in the Punjab, 1916.

Civil Justice.—Report on the Administration of Civil Justice in the Punjab and its Dependencies during the year 1916.

Registration.—Report on the Administration of the Registration Department of the Punjab for the years 1914, 1915 and 1916.

Legal affairs of Government.—Report on the Administration of the legal affairs of the Government of the Punjab for the year 1916.

Local Boards Administration.—Report on the Administration and accounts of the District Boards in the Punjab for the year 1916-17.

Municipal Administration.—Report on the working of Municipalities in the Punjab during the year 1916-17.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical abstract for British India, Volume IV, Administrative and Judicial (including area, population and local funds).

17.—Legislating Authority during the year 1916-17.

107. The constitution of the Council was amended by Government of India Notification No. 20, dated the 30th March 1916. The number of elected members was increased from 8 to 11, four members to be elected by Municipal and Cantonment Committees, and five by District Boards. The number of nominated members was also increased from 16 to 17. These changes were carried out in the triennial re-elections and renominations which took place in May and June. The following changes took place subsequently :—

(1) The Hon'ble Mr. D. W. Aikman, C.I.E., was nominated in place of the Hon'ble Mr. T. R. J. Ward, C.I.E., M.V.O., M.I.C.E., resigned.

(2) The Hon'ble Mr. J. A. Richey was nominated in place of Mr. J. C. Godley, C.S.I., resigned.

(3) The Hon'ble Khan Bahadur Khwaja Yusaf Shah was nominated in place of the Hon'ble Khan Zulfiqar Ali Khan nominated as an additional member of the Imperial Council.

(4) The Hon'ble Risaldar Partab Singh, Sardar Bahadur, was nominated in place of Sardar Bahadur Sardar Sundar Singh Majithia, elected as an additional member of the Imperial Council.

18.—Course of Legislation for the year 1916-17.

108. Four meetings of the Legislative Council were held during the year under report, two in Lahore and two in Simla.

PROTECTION.

109. Two Bills, *viz.* (1) The Juvenile Smoking Bill and (2) The District Boards Act (Amendment) Bill, were introduced in Council during the year. The first was circulated for opinion and the second was withdrawn.

110. Out of the following six resolutions—

(1) resolution regarding Lord Hardinge's Viceroyalty;

(2) resolution regarding Municipalities in the Punjab;

(3) resolution on the sudden demise of the Right Hon'ble Earl Kitchener of Khartum;

(4) resolution regarding teaching and study of vernaculars;

(5) resolution regarding establishment of an Executive Council in the Punjab;

(6) resolution regarding appointment of the representative of the Muhammadans of the Punjab on the India Legislative Council by election in place of nomination—

the second was lost while the others were carried. The official members did not vote on (5) and (6) while (4) was accepted by Government in an amended form.

111. One hundred and eighty-nine questions were put and answered.

INDIA ACTS.

112. No Acts particularly affecting the Punjab were passed by the Imperial Legislative Council during the year.

19.—Police.

GENERAL POLICE FORCE.

General.

113. The number of true cognisable cases of all kinds dealt with by the police in 1916 was 6,197 or 14 per cent. less than in the previous year. Excluding petty offences under local and special laws there were only 28,937 true cases in 1916 as compared with 35,597 in 1915—a decrease of 24 per cent. The year 1916 marked the complete disappearance of the serious disorder and lawlessness of 1915 and recorded crime dropped to a level lower than has been reached since the year 1910. The factors responsible for the general improvement were the subsidence of political unrest: the fall in prices following on better agricultural conditions: special measures organized to cope with bands of wandering criminals: the diversion of the energies of the wilder spirits in the province to the various spheres of military activity: and, finally, the increased confidence in and consequently improved co-operation with the police that has characterised the attitude of the public towards the criminal administration. As in the previous two years the policy of taking prompt action against village officers and communities guilty of sins of omission and commission towards the criminal administration, and on the other hand of promptly rewarding good service, has been steadily pursued. Forty punitive police posts were in existence at the end of 1916, and 666 village officers were punished during the year for failure of duty. Punitive posts have again shown their efficacy, especially in the case of the combined punitive levy imposed on the Jhang, Muzaffargarh and Multán Districts as a consequence of the dacoities of the spring of 1915, and in the case of a post imposed on a village in the Attock District in consequence of the misconduct of its inhabitants in harbouring a notorious military deserter who, when an attempt was made to arrest him, shot at and wounded a Sub-Inspector and escaped with the connivance of the villagers. In the former case the levy was withdrawn, as, during 1916, the districts affected were singularly free from violent crime and lawlessness, and it was found possible to allow the return of the local men of influence who had been expelled from their districts for complicity in the outbreak of 1915. In the latter case so effective was the action taken that the absconder was produced within a week of the location of the post, and in recognition of this speedy submission to authority the period of location of the post was reduced by the Lieutenant-Governor from one year to six months.

1916-17

114. On the other hand, within the last three years in addition to cash rewards amounting to about Rs. 75,000, land revenue to the amount of Rs. 22,000 has been remitted to village communities which have rendered signal assistance, while over 200 grants of land have been made to individuals for specially valuable service to the criminal administration. These grants have undoubtedly done much to encourage the public to accept the risks which resistance to and pursuit of dangerous criminals so often involve.

Murders and dacoities.

115. The total number of murders, 524, was slightly higher than the previous year's aggregate, but 13 less than the average of the previous four years. Except in Shahpur the fluctuations in districts from the record of 1915 appear to be largely fortuitous. Against the small increase in the number of murders in 1916 may be set the decrease of 10 cases of culpable homicide and attempted murder. There were only 315 true cases of dacoity and robbery during 1916 as compared with 565 such cases in the previous year. The figures for 1915 were indeed inflated by the disturbances in the Jhang, Muzaffargarh and Multán Districts, but not to an extent approaching the decrease recorded during 1916.

Burglaries and theft.

116. Burglaries decreased from 17,337 in 1915 to 13,477 in 1916, a drop of 3,860 cases, which is mainly attributable to the rounding up of several gangs of wandering criminals from down-country, and to the rapidly growing popularity of the indigenous systems of watch and ward known as *thikri-pahra* and *nakabandi*. Thefts similarly show a decrease of 1,459 cases, the figures being 5,753 in 1916 and 7,212 in 1915.

Police working.

117. The general improvement in detection and prosecution that set in from the beginning of 1913 was maintained during the year. The all-round percentage of cases convicted to true cases rose from 30 in 1915 to 32·7 in 1916, while the percentage of cases and persons convicted to cases and persons tried advanced from 71 and 56, respectively, in 1915, to 71·7 and 57·29 in 1916. In detail the general improvement is shared in all classes of cases, except in the case of dacoities, where the percentage fell from 60 in the preceding year to 48: a figure, however, well above those of the years immediately preceding 1915.

Preventive measures.

118. Though the number of persons called upon to furnish security was considerably less than in 1915 it was 35 per cent. higher than the figure of 10 years ago. A Bill for the restriction of habitual offenders is now under the consideration of Government, and a further measure with the object of legalizing the *thikri-pahra* and *nakabandi* systems of village patrols is also contemplated.

Disregard of authority.

119. Instances of unusual lawlessness and defiance of constituted authority were on the whole remarkably few in number, being practically confined to the Ferozepore District in which a gang of ferocious dacoits, which has since been broken up, after wreaking vengeance on personal enemies, harried the neighbourhood thoroughly and indiscriminately.

Criminal Investigation Department.

120. The burden of work which fell during 1916 on the shoulders of the Criminal Investigation Department, if less serious than in the previous twelve months, was sufficiently heavy to keep its energies fully occupied. There was, indeed, no recrudescence of the lawlessness directly associated with the revolutionary movement: but the aftermath of the *Ghadr* conspiracy was evident in the Second Supplementary Lahore Conspiracy Case, in which out of 17 accused, 6 were sentenced to death, 5 to transportation and another to imprisonment: in the Mandi Supplementary Case, in which at the close of the year 5 offenders of the State were convicted and sentenced to terms of imprisonment ranging from transportation for life to 18 months; and also in the Rawalpindi Bomb Case, in which several returned emigrants who had been convicted in the First Lahore Conspiracy Case plotted with certain warders to assassinate with bombs the Superintendent and other officials of the jail. Three of the ringleaders were convicted by the Lower Court and awarded exemplary sentences. All these cases, as well as numerous other important investigations, were conducted by the Criminal Investigation Department.

Finger Print Bureau.

121. During the year 29,772 references were received by the Finger Print Bureau at Phillaur for search, of which 5,738 were traced, as compared with 34,751 references and 5,856 traced in 1915. The number of finger impression slips on record at the end of the year was 230,923 as compared with only 162,496 in 1906.

Internal economy.

122. During recent years the inadequacy of the pay of the lower ranks of the police force had been repeatedly forced on the attention of Government. The rates of pay for constables and head constables had been fixed as a result of the report of the Police Commission in 1905. The minimum pay was Rs. 8 per mensem which rose after 3, 10 and 17 years' service to Rs. 9, Rs. 10 and Rs. 11, respectively. Economic conditions have, however, owing to the advance in prices and wages, changed very materially since these rates were regarded as an adequate wage. The position had been further aggravated since the outbreak of war by the extraordinary demands made by the army and its subsidiary services on the manhood of the province and by the enlistment of recruits for the police of two other provinces which offered higher rates of pay than those obtaining in the Punjab. Accordingly, with effect from the 1st April 1916, revised rates of pay for constables were brought into force. For the first 3 years they will receive Rs. 10 per mensem, and after 3, 10 and 17 years Rs. 11, Rs. 12 and Rs. 13, respectively. Head constables had hitherto been graded in three classes, drawing, respectively, Rs. 15, Rs. 17-8-0 and Rs. 20 per mensem. With a view to the encouragement of a better educational standard in the higher grade of head constables from which promotions to the rank of Sub-Inspector are made, a new first grade drawing Rs. 25 per mensem was created. The estimated extra cost to Provincial revenues of these charges is over Rs. 4½ lakhs of which half has been provided by the revision of establishment explained below.

123. Concurrently with the raising of the rates of pay of constables and head constables a revision of the strength and re-distribution of the force in accordance with present conditions has been effected. The vast extension of canal irrigation in the province, together with improved facilities of communication by road and rail, have naturally been followed by great fluctuations of population in some districts and by the growth of new, and the decline of many old, towns. As the result of enquiries pursued in each district by an officer placed on special duty, it was found possible to effect a reduction of 34 Inspectors, 42 Sub-Inspectors and 842 constables from, and an addition of 117 head constables to, the permanent establishment, resulting in a saving of over Rs. 2¼ lakhs on establishment charges alone.

Rural Police.

124. During the year, 25 zaildars, 320 village headmen and 321 village watchmen were punished for failing to assist the police and for neglecting their duties, while rewards were granted to 547 headmen and 334 watchmen for services to the criminal administration.

Criminal Tribes.

125. During 1916 there was a substantial decline from 619 to 481 in the number of convictions in all classes among the settled criminal tribes, and a satisfactory decrease in the number of absentees. By the end of the year arrangements for the restriction and reformation of wandering criminal tribes were completed. Formerly the surveillance of wandering tribes was spasmodic and lacking in co-ordination owing to the want of a central supervising agency. A strong central agency has now been formed and the scheme for the reclamation and reformation of these tribes includes, besides complete registration, projects for the establishment of a number of settlements, reformatory, industrial and agricultural.

Chemical Examiner.

126. There was a slight increase in the number of cases investigated by the Chemical Examiner, due to the extra work involved in the examination of articles to be supplied to troops on service. There was some decline in medico-legal work: this, however, represented no decrease in crime but the greater use made of the services of the Imperial Serologist.

127. Human poisoning cases again constituted nearly half the medico-legal work done. Arsenic was the most common form of poison used, being found in 31·38 per cent. of the detected cases, opium being found in only 30·32 per cent. of the cases as against 36 per cent. in the previous year. There was an increase in the number of animal poisoning cases, and here too arsenic was the most popular agent, being found in 73·7 per cent. of the detected cases.

20.—Criminal Justice.

General.

128. The steady decline in the total number of reported offences which has marked the last few years was well maintained. In the year under report 198,832 offences were reported, or about 3,400 less than in 1915. These figures indicate not so much a falling off in crime, though undoubtedly there was a real decrease, as a decline in the number of false and frivolous complaints presented. So-called "true" offences under the Penal Code rose from 88,142 to 88,571, and those under local and special laws from 44,998 to 46,303, while the total number of cases brought to trial under both classes of laws increased from 119,515 to 121,034. It is, however, reassuring to notice that in the four more serious classes of crime—offences affecting life, theft, receiving stolen property, and robbery and dacoity—there was an aggregate decrease of 14 per cent. during the year.

Disposal of cases.

129. Of cases brought to trial, 72 per cent. resulted in conviction or compromise as compared with 73 per cent. in 1915; but there was a rise from 38 to 39 in the percentage of cases in which convictions were obtained. This progressive improvement is satisfactory, though the value of the figures for 1916 is discounted by the fact that it was only in comparatively petty cases under local and special laws that a higher proportion of convictions was secured: in trials under the Penal Code the percentage was only 20. The above figures refer, not to persons, but to cases. Of the total number of *persons* tried for offences under the Penal Code and other laws, some 26 per cent. were convicted or almost exactly the same figure as in the previous year. The number of complaints summarily dismissed decreased from 61,794 to 60,474, while cases in which compensation was awarded to persons falsely accused fell from 870 to 850.

Matrimonial offences.

130. Admitted offences relating to marriage rose from 5,366 to 5,796. Of these, 5,432 were brought to trial and 616 resulted in conviction. The increase in the number of matrimonial offences is regrettable. The serious feature of this class of crime is its intimate connection with the traffic in women that in recent years has been a scandal in certain tracts, while probably in 40 per cent. of the murders committed the originating cause is matrimonial infidelity or irregular sexual relations.

Capital offences.

131. Two hundred and fourteen persons were sentenced to death by Sessions Courts and 227 were dealt with by the Chief Court under Section 374, Code of Criminal Procedure, 148 death sentences being confirmed, 29 commuted, and 50 set aside on appeal.

Special Tribunals.

132. The only case decided in 1916 by Special Tribunals constituted under the Defence of India Act, was that generally known as the first Supplementary Lahore Conspiracy trial. Seventy-four persons were tried, of whom 15 were acquitted, 6 sentenced to death, 45 to transportation for life, and 8 to transportation or imprisonment for a shorter term.

In 51 cases sentences of forfeiture of property were also passed. The Tribunal consisted of two Sessions Judges and an Indian member of the Bar. Under the Act no appeal lies from their decision, but in the exercise of its powers of clemency the Local Government commuted the death sentence in one case to transportation for life. Many of those sentenced to transportation for life were recommended to mercy by the Tribunal and in 27 cases their sentences were reduced to lesser terms. The order requiring forfeiture of property was also remitted in 37 cases.

21.—Prisons.

Admissions and accommodation.

133. The year opened with a jail population of 17,643 which is the largest on record, and though the number of convicts imprisoned fell from 21,972 in the previous year to 20,516 and of newly admitted persons under trial from 26,627 to 22,201, the daily average of persons confined in jails and lock-ups was over 2,000 in excess of the total accommodation provided.

Health.

134. The vital statistics of a year, when malaria was very prevalent, were on the whole satisfactory. The daily average sick-rate fell from 661 to 556, and the mortality from 25·41 to 20·32 *per mille*, a rate which compares favourably with the rate of 30·7 *per mille* among the free population. Particularly satisfactory was the decrease in the number of deaths from pneumonia which can be attributed to the improvement of ventilation consequent on the removal of shutters from doors and windows of sleeping barracks.

Jail Corps for Mesopotamia.

135. The chief feature of the year was the valuable contribution made by the jails towards the national effort in the prosecution of the war. In the summer and autumn volunteers from among the jail population were invited to enlist for service in labour, porter and sweeper corps in Mesopotamia on specified conditions which comprised conditional release from the date of embarkation, pay and allowances and the free issue of suitable kit and rations. The selection of prisoners was limited to those between the ages of 18 and 41, who were found medically fit and who had not been convicted of certain of the more serious offences. The response to this call for volunteers was an eager one, and a sweeper corps consisting of 391 convicts was sent to Mesopotamia in June. This was followed by a porter corps, 872 strong, and a labour corps of 1,179 prisoners in October. All these corps were kept up to strength by subsequent drafts. In addition to the supply of this *personnel*, the manufacture of large numbers of blankets, tents, nose bags and other articles was undertaken in the jails at the request of the Military authorities.

Under-trial prisoners.

136. There was a large decline from 26,627 to 22,201 in the number of under-trial prisoners admitted during the year. In 1915 the numbers were abnormally swollen by the detention, while under trial, of some thousands of persons arrested in connection with the dacoities in the south-west of the province. The relief to the courts implied in this decrease in numbers resulted in lowering the average period of detention of under-trial prisoners from 25 to 23 days.

Discipline.

137. The number of prisoners who escaped from jails was 18 as against 21 in 1915, but of these, 13 as compared with 3 in the previous year, escaped from inside jail walls. On the whole, however, the standard of discipline and conduct was well maintained and in spite of the increase in the average jail population the number of jail offences fell from 24,474 in 1915 to 23,106.

Financial.

138. A fall in the price of food stuffs resulted in a slight decline in expenditure from Rs. 13·78 lakhs to Rs. 13·67 lakhs. The average given cost of each prisoner's guarding and maintenance fell from Rs. 82-12-11 to Rs. 80-11-9. Average earnings however also fell from Rs. 19 to Rs. 15-9-0 and the total profits from jail manufactures decreased by about Rs. 39,000.

22.—Civil Justice.

Institutions. 139. The number of suits instituted in 1916 was 194,864 or 4,300 less than in the previous year. This was to a certain extent due to unfavourable agricultural conditions. Except in the canal-irrigated districts the cultivator had little, if any, surplus with which to discharge his obligations to the money-lender, and the natural result was a substantial decrease in the number of suits by creditors for the recovery of their debts. The magnificent response made by the rural population to the call for recruits also tended to diminish the volume of litigation. With so large a proportion of their manhood absent on active service those remaining on the land had less leisure for resort to the Courts, litigation being generally regarded by the Punjab peasant as a luxury to be enjoyed when work is slack and the purse full.

Value of suits. 140. The value of suits has fallen by nearly Rs. 3 lakhs to Rs. 3,52,04,216. The average value however increased by one rupee to Rs. 179. Excluding land suits, the value of which for jurisdiction is usually far below their true market value, no less than 80,751 or 41 per cent. of the total number of suits instituted did not exceed Rs. 50 in value.

Disposal of work. 141. The decline in the number of institutions was only in the simplest class of cases,—those for the recovery of money or moveable property. Suits of greater complexity and value slightly increased in number. The number of original suits decided was 209,064 or only some 650 less than in the previous year, and the number left pending at the end of the year was reduced from 34,835 to 33,798. The average duration, 78 days for contested and 38 for uncontested original suits, was almost exactly the same as in 1915. The average duration of contested civil appeals in District Judges' Courts fell from 164 to 152 days.

The Chief Court. 142. There was a further increase in the amount of civil work coming before the Chief Court. Institutions rose from 2,977 to 3,039 and disposals from 2,814 to 3,016. The number of first appeals pending has risen from 535 to 568, while the figure for second appeals pending is almost exactly the same as for last year.

Execution of decrees. 143. The number of applications for execution of decrees rose from 191,117 to 204,423; but the number of execution proceedings pending fell from 33,299 to 32,582. The percentage of realisations dropped from 26 to 25; but in this connection it has to be remembered that in many of the proceedings classed as infructuous a settlement is undoubtedly effected privately, but not certified to the Court.

Pre-emption. 144. The decline in pre-emption suits was substantial, the total number instituted being only 4,065, or 1,500 less than in 1910.

Insolvency. 145. Work under the Provincial Insolvency Act, 1907, continued to increase, the number of petitions filed being 2,239 as compared with 1,718 in 1915, and 1,325 in 1914. A separate report on the liquidation of companies has been received and is under the consideration of Government.

23.—Registration.

General state of business. 146. The most noticeable feature of the triennial report for the years 1914, 1915 and 1916 was the increase of 11 per cent. in the number and 16 per cent. in the value of compulsory registrations of immoveable property as compared with the figures of the previous triennium. In 1911 the number of sales registered was a little over 25,000: in 1916 the number was nearly 30,000 and the value of the property sold reached the unprecedented figure of Rs. 314 lakhs. The average price paid on each transaction registered during the triennium was Rs. 1,050 as compared with Rs. 1,017 in the previous three years. Mortgages compulsorily registered show a similar increase of 12 per cent. in number and 17½ per cent. in value during the three years.

147. The chief causes of the increase are the growth of capital available for investment and the consequent rise in the value of land, which has made it compulsory to register sale deeds affecting even small plots. The amount of land available for sale has also increased since 1912 when proprietary rights began to be acquired by settlers in the great canal colonies. The shock to credit given by the bank failures in 1913 has made investment in land more popular than ever. It is also reported from different parts of the province that the wealthier trading classes are showing a tendency to flock into towns presumably for the sake of the greater security and amenities there available. The growing desire of the richer town dwellers for comfortable houses on the outskirts of towns and the gradual extension of industrial enterprise led to many sales of building sites in the suburbs of large cities. The increasing popularity of immoveable property as a field for investment shows how little the material prosperity of the Province has been affected by the war and is a remarkable proof of the general confidence in the stability of existing institutions.

148. Optional registrations continued to decline in numbers, partly owing to the general rise in the value of land and partly also owing to the growing tendency to rely on the land records as evidence of a transaction, a satisfactory tribute to the greater reliability of the recording agency.

Land Alienation Act.

149. It is generally reported that the Punjab Alienation of Land Act is understood by the people and by the registering officers, but in certain districts instances of evasion of the Act by means of mortgages disguised as leases were noticed. Special attention has been paid to this form of evasion during the inspection of offices and it can be said with confidence that very few attempts escaped detection. Many districts report cases of refusal to register because of various breaches of the Act.

Income and expenditure.

150. The income of the department in 1916 was Rs. 3,66,870 and its expenditure Rs. 1,41,544. The total income during the triennium was greater than that of the previous one by Rs. 96,728 or 10 per cent. Registration fees increase automatically with the volume of business and the value of the property affected. The total expenditure during the triennium increased by Rs. 19,678 or 5 per cent. The main item in the increased expenditure is the rise in commission paid to Sub-Registrars: this follows automatically on the increase in business.

23-A.—Legal Affairs of Government in the year 1916.

151. The number of references for opinion disposed of by the Legal Remembrancer was 1,041 as compared with 952 in 1915 and 1,146 in 1914.

152. The Secretary of State was plaintiff in 11 original civil suits during the year. Of these suits, 6 were decided in favour of Government while 5 remained pending at the end of the year. Of the cases decided in Government's favour, three were for possession of land and three for recovery of money, the total amount involved being Rs. 29,580-1-1.

153. The Secretary of State was defendant in 77 original actions, including four land acquisition references, of which two were compromised, one withdrawn and one decided, the Collector's award being upheld. The amount involved was only Rs. 2,291-9-4 as against over Rs. 15 lakhs in the previous year. Of the other 73 civil suits, 28 were decided in favour of and 7 against Government, while 38 remained pending at the close of the year. The total amount involved was Rs. 5,35,029. The amount claimed in the decided cases was Rs. 2,18,883 but only Rs. 2,037 was decreed against Government and Rs. 3,457 was awarded to Government on account of costs in cases which were successfully defended.

154. The Secretary of State was appellant in 16 and respondent in 38 appeals. Of these, 18 were decided in favour of and 3 against Government, the rest remaining pending at the end of the year. Two revenue suits were instituted on behalf of the Secretary of State and were decided in favour of Government. Five revenue suits were brought against the Secretary of State and decided against Government, but five appeals filed on his behalf were successful.

155. The appointment of a Public Prosecutor in the Chief Court was sanctioned during the year and the experiment proved a success. He conducted 242 cases, thus relieving the Government Advocate for the conduct of important conspiracy trials. Government Law Officers appeared in one original criminal trial in the Chief Court, which was decided in favour of the Crown, and in 22 original trials in Subordinate Courts. Of these, 5 were withdrawn, 9 decided in favour of the Crown, while 8 remained pending. Out of 1,340 criminal appeals in the Chief Court 873 were decided in favour of and 233 against the Crown. In Subordinate Courts 2 appeals were successfully preferred. The Crown was also successful in 230 out of 340 applications for revision, 97 being decided against it. There were only two miscellaneous cases and both were decided in favour of the Crown.

24.—District and Local Boards.

156. The only change in the constitution of district boards during the year has been the abolition of local boards in Amritsar and the reconstitution of the board with new electoral circles. The system of election of members by votes has not been extended and it is idle to disguise the fact that it is alien to the rural mind and that attempts to excite interest in rural elections have usually ended in failure. The rural masses however often show themselves capable of selecting the right men, but this is done in India—as it was done in the earlier stages of local self-government in Europe—as the result of popular discussion and by popular acclamation rather than by the foreign and novel machinery of the voting register and the ballot box. At present an apathetic attitude on the part of electors is frequently due not only to the absence of any genuine interest—apart from some artificial stimulus—in the elective system, but also to a recognition of the fitness of the local representative, and the absence of any suitable man to replace him. A more regrettable feature is the absence of any candidate for several vacancies, which had therefore to be left unfilled or filled by nomination. On the whole therefore the rural attitude towards elections is still one of diffidence or distrust, and the whole question of the introduction of the elective system will probably soon come under review in connection with the policy of extending local self-government.

157. The general working of the boards however continues to be good. It has been noticed that where the field of discussion is limited to the mental horizon of the members or a definite task is set which falls within the range of their experience, they generally take an interest in the administration of local affairs, and within these limitations progress is real and promising. The surest line of advance on present conditions is therefore for the boards to gauge the aptitude of their members and utilize them accordingly, and measures recently taken to secure devolution by the removal of financial restrictions and to increase the resources of the boards will also, it is hoped, increase the interest taken in the wider questions of rural administration. Hitherto the general policy in relation to the various operations of the boards has depended mainly on official suggestion, and this in turn has been largely determined by financial considerations. The resources of a number of boards have been so limited and inelastic that nothing more than a hand-to-mouth policy has been possible, and where grants have been received from Government they have been earmarked for special purposes. In such circum-

stances any very lively interest on the part of members could hardly be expected, and they have generally been content to pass a budget prepared in office without any serious comment.

158. It is satisfactory to note that in spite of the unpopularity of additional taxation for progressive measures several boards have raised the local rate to the statutory limit of 10 pies per rupee on the annual value (which by comparison with any other country possessing local self-government is extraordinarily low) and the additional income should be of the greatest value from the point of view of general development.

159. The system under which Government made a number of grants for specific purposes has been entirely discontinued, apart from educational grants, with effect from the year 1917-18, and consolidated grants amounting to Rs. 7,74,000 have been introduced, while an additional development grant of Rs. 2,60,000 has been placed at the disposal of Commissioners. This reform should not only provide a welcome elasticity in local finance and encourage a keener interest on the part of members, but also by introducing a more equitable basis of distribution materially assist the weaker boards. Budgets should now be characterized by a greater variety and show signs of a systematic financial policy.

160. The gross income of district boards was Rs. $78\frac{3}{4}$ lakhs, 25 lakhs above the figure for 1911-12 and $3\frac{3}{4}$ lakhs more than last year, nearly half the income being produced by the local rate. Expenditure fell from about Rs. 84 lakhs to Rs. $76\frac{1}{4}$ lakhs, the main reason being the difficulty of carrying out civil works on account of the War and the consequent scarcity of materials. The expenditure, however, rose by Rs. $22\frac{1}{2}$ lakhs as compared with the figures for 1911-12.

161. Receipts for education increased to about 16 lakhs as compared with about $14\frac{3}{4}$ lakhs realised last year. Expenditure also rose—from about 23 lakhs to a little over 24 lakhs; the net expenditure was nearly a lakh more than last year. The opening of training schools for women teachers at Ludhiana and at Bohar in the Rohtak District is encouraging and Government is providing for a further extension in the coming year. Hitherto extension of primary education has often been spasmodic and the absence of any definite plan of campaign has militated against its success. This defect is now fully recognised and educational authorities are taking systematic measures to advise and promote a regular and considered policy in the location of schools.

162. Income under the head "Medical" rose from Rs. 97,142 to Rs. 1,07,510; this is particularly gratifying as Government grants fell considerably. The levy of fees from the well-to-do continues to be unpopular with the public and the medical staff. Expenditure decreased by a little over Rs 7,000 to Rs 7,84,047 owing principally to a large and welcome reduction in plague charges. The expenditure of a number of boards under this head still appears to be inadequate. It is hoped to stimulate their efforts by providing a lakh of rupees as grants-in-aid for the construction of new buildings in the coming year. The expenditure on hospitals rose from Rs. 4,31,772 to Rs. 4,83,497 and this fact indicates that boards have faced willingly the rise in the price of medical requisites.

163. The improvement of agriculture is now receiving practical interest and support from several boards. Demonstration farms have been started at Sialkot and Amritsar and are contemplated at a number of other places; but their success at present must depend largely on the skilled assistance which the Agricultural Department can furnish and the movement, therefore, should not be allowed to outstrip the supply of competent managers. A number of bulls were purchased during the year and the Hissar Farm is scarcely able to meet the calls made upon it.

164. Income under the head 'Civil Works' fell by a lakh of rupees owing to the reduction in Government grants. Expenditure also decreased by Rs. 8¼ lakhs. There is a general complaint of the difficulty of procuring stone metal owing to the shortage of railway trucks and the withdrawal of concession rates, and if these conditions persist the expenditure on roads will have to be very heavy as soon as the present restrictions are removed.

25.—Municipal Administration.

165. No change occurred in the number of municipalities during the year 1916-17, but notified areas were constituted at Bághbánpura and Bhogíwál, Ichhra and Samundri. The extension of the elective system to several municipalities, where it has not hitherto been adopted, is under consideration and the system will be introduced wherever it has a reasonable prospect of success. The reports as to elections are hardly encouraging and leave the impression that in many towns the system is either regarded with indifference or, in the case of keen contests, which are generally stimulated by personal or sectarian feeling rather than by broader issues of principle and policy, is apt to result in bribery and corruption. Popular opinion as regards elections still leaves much to be desired, but now that the system of representation by election is assuming more importance it is more than ever necessary that every effort should be made to correct and improve it. It is hoped that some improvement may be effected by the rules and model bye-laws recently issued by Government and possibly more by raising the qualifications of voters. But the ultimate success of the elective system must depend primarily on a healthy public opinion and secondly on the character of the candidates and their agents, and their determination to refrain from the reprehensible methods that are now only too common.

166. The attitude of members towards municipal questions in many cases still leaves room for improvement. In large towns, however, where the standard of education is higher and knowledge of outside conditions greater, members are gradually acquiring that appreciation of public duty without which urban self-government is impossible. In the case of small towns the position is different, as local and sectarian jealousies are rampant and are a serious impediment to clean and efficient administration. It has been noticed in the ordinary head-quarters municipalities that members are willing to subordinate personal and party interests to the good of the public only when the former are not deeply engaged and the latter is clearly apparent.

167. On the whole committees are discharging their statutory functions satisfactorily. There appear, however, to be two tendencies which require to be checked: a desire on the part of unofficial members to keep executive control of petty matters in their own hands, and a disinclination to grapple with really important problems. The former is seen in the disproportionate interest they take in individual building applications and other petty questions of a personal nature and often results in that jealousy of the executive officers of the committee which was the subject of unfavourable comment in last year's report. Progress would be greatly accelerated if a small portion of the time and attention which is now given to these petty matters were devoted to the consideration of broader questions.

168. The total income of municipalities rose from Rs. 74¾ lakhs to Rs. 82 lakhs and thus almost reached the figure of 1914-15. Omitting Government grants (Rs. 7⅓ lakhs this year) the increase in the quinquennium has been one of 10 per cent. The aggregate expenditure for the year (Rs. 76½ lakhs) was practically the same as for 1915-16, and the total balance at the close of the year rose from Rs. 36 lakhs to Rs. 40 lakhs. A number of large schemes of public improvement are in hand or under consideration. Though few, if any, of the larger schemes can be undertaken by municipalities without grants from Government, it is a gratifying sign that committees realize the need for better conditions,

particularly as regards sanitation and are ready to take practical steps to attain them. A number of municipalities ended the year with what appear at first sight to be unnecessarily large balances but in almost every case these represent the funds needed to finance some scheme in contemplation.

TAXATION.

169. Income from taxation during the year (Rs. 45 lakhs) was two lakhs greater than last year; octroi accounts for a lakh-and-a-quarter of this excess and its total of nearly 40 lakhs constitutes a record. The proposals regarding the substitution of a terminal tax at Gujránwála have now been submitted to the Local Government and a similar reform is before the municipal committee of Ludhiána. This form of taxation has attracted the attention it deserves, and is said to be under contemplation in Jullundur, Jagráon, Hissar, Bhiwáni, Rewári, Palwal, Rohtak, Karnál, Ambála City, Lahore and Amritsar. Legislation empowering the Local Government to sanction in certain cases proposals to substitute a terminal tax for octroi is now under consideration and if passed will facilitate the more general adoption of this tax. The incidence of taxation for the year was Rs. 2-12-6 per head.

26.—Military (Volunteers).

170. There were one mounted and three dismounted Volunteer Units in the Province, namely the Punjab Light Horse, the Punjab Volunteer Rifles, the Simla Volunteer Rifles and the 1st Battalion, the North-Western Railway Volunteer Rifles, the ranks of which though depleted to some extent by calls made upon them by the military authorities, were nevertheless up to the average strength in consequence of many non-volunteers having enrolled since the outbreak of the war. All were inspected at various times during the training season of 1916-17 and were reported on as quite efficient. They however ceased to be units of the Volunteer Force in February 1917 when the Indian Defence Force Act was passed and thenceforth became units of that Force and were divided into Active and Reserve Companies. They retained their former designations under the new Act with the omission of the word "Volunteer."

171. During the year under review these units continued to afford the military authorities all the assistance they were capable of and between them contributed 56 additional members to the Indian Army Reserve of Officers and 16 to the commissioned ranks of the Regular Army. One Corps alone, the Punjab Light Horse, has no less than 95 of its members serving in the Indian Army Reserve of Officers, whilst the Punjab Volunteer Rifles at the beginning of 1917 had in actual military employ as many as 264 members, the majority of whom were on service abroad.

172. The North-Western Railway Volunteer Rifles also afforded considerable assistance and have furnished large numbers for service on railways in Mesopotamia, East Africa and elsewhere, as also reinforcements for the Maxim Gun Section sent to East Africa.

CHAPTER IV.

PRODUCTION AND DISTRIBUTION.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Agriculture.—(1) Report on the Operations of the Department of Agriculture, Punjab, for the year ending June 30th, 1917.

(2) Annual Report of the Punjab Veterinary College, Civil Veterinary Department, Punjab, and the Government Cattle Farm, Hissar, for the year 1916-17.

(3) Report on the Land Revenue Administration of the Punjab for the agricultural year ending 30th September 1916.

(4) Report on the working of Co-operative Societies for the year ending 31st July 1917.

Fisheries.—Report on the Department of Fisheries, Punjab, for the period 1st June 1916 to 31st May 1917.

Weather and Crops.—(1) Report on the Weather of the Punjab for the year 1916-17.

(2) Punjab Seasons and Crop Report for 1916-17.

Horticulture.—Report on the Lawrence Gardens, Lahore, for the year 1916-17.

Forests.—(1) Progress Report on Forest Administration in the Punjab for 1916-17.

(2) Progress Report on Arboriculture in the Punjab for the triennial period 1914-15 to 1916-17.

(3) Report on the Administration and Accounts of the District Boards in the Punjab for the year 1916-17.

(4) Land Revenue Report, as above.

Manufactures.—Report on the working of the Factories Act in the Punjab during the year 1916.

Trade.—(1) Report on the Internal Trade of the Punjab by Rail and River for the year 1916-17.

(2) Report on the External Land Trade of the Punjab for the year 1916-17.

(3) Report on the Joint Stock Companies in the Punjab for the year 1916-17.

Public Works.—Administration Report of the Public Works Department, Punjab, Buildings and Roads Branch, for the year 1916-17.

Irrigation.—(1) Administration Report of the Public Works Department, Punjab, Irrigation Branch, for the year 1916-17.

(2) Land Revenue Report, as above.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Agriculture.—Statistical Abstract for British India, Volume I, Commercial Statistics.

Forests.—Statistical Abstracts for British India, Volume II, Financial Statistics.

Crops.—(1) Agricultural Statistics of India, Volume I, Tables II and III.

(2) Estimate of Area and Yield of certain principal Crops in India.

(3) Prices and Wages in India.

(4) Variations in Indian Price Levels.

Mines and Quarries.—(1) Statistical Abstracts for British India, Volume I, Commercial Statistics.

(2) Records of the Geological Survey of India, Volume XLVII, Part 3.

(3) Report of the Chief Inspector of Mines in India.

Manufactures.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

Trade.—(1) Inland Trade (Rail and River borne) of India.

(2) Statistical Abstracts for British India, Volume I, Commercial Statistics.

Railways.—Administration Report on Railways in India for the calendar year 1916-17.

Irrigation.—Statistical Abstracts for British India, Volume I, Commercial Statistics.

PRODUCTION AND DISTRIBUTION.

27.—Agriculture.

Scientific.

General.

173. The most important change in the staff of the Agricultural Department that occurred during the year was the transfer of Mr. Barnes, Principal of the Agricultural College and Agricultural Chemist, to Pusa as Imperial Agricultural Chemist, where he died shortly after his arrival. The province and the college owe a great deal to his energy and ability. He was succeeded as Principal by Mr. Roberts, Professor of Agriculture, and as Agricultural Chemist by Mr. B. H. Wilsdon from the Government College, Lahore.

Lyallpur College.

174. There were in July 1916, 200 applicants for admission to the four years' course at the Agricultural College, but only 38 vacancies. The usual one month's English course for Revenue and Irrigation Officers, and the six months' vernacular course were also held, 20 students attending the former class and 30 the latter. The candidates for admission to all these classes, especially the last, were much more numerous than the vacancies, and the opening of a vernacular class at the Gurdáspur farm is contemplated. Many district boards and some private donors presented scholarships for both English and Vernacular classes. The affiliation of the college to the Punjab University has been decided on.

175. The increasing popularity of the college can be attributed to two main reasons. The first is that the college can now lead to an honourable and well paid career in Government service : the second is that the land owning classes realise that a training at the college will render their sons more fit to manage their estates, and that the possibilities of improved agricultural methods in the Punjab are not small. Among the students at the college is a son of a member of the Imperial Legislative Council, who will manage his estate on leaving the college. The number of applications from private employers, both English and Indian, for men to manage their estates who have passed through the college, is daily increasing.

Experiments and research.

176. Valuable work in chemical research continues to be done. The Narwala *reh* reclamation experiment was successfully concluded during the year, and the land restored, cured, to its original owners. The reclamation took about three years, and cost about Rs. 30 per acre *plus* an undetermined charge for extra water. The value of the land treated has been increased from Rs. 45 to at least Rs. 250 per acre. A proposal to apply the methods that proved successful at Narwala, on a considerably larger scale to *kallar* lands in the new Lower Bari Doab Colony, is under consideration.

177. Some of the Economic Botanist's wheats and cottons are very promising, and may eventually supplant 4-F American cotton and Punjab 11 and Pusa 12 wheats, which the Department is at present pushing in the Province. The Scotch potatoes in the Simla hills continue to be extremely popular and successful ; they generally yielded from 50 to 75 per cent. more than country potatoes in the same neighbourhood. Results of experiments with artificial manures so far show that no such manure can be used profitably in the Province.

Implements and demonstration work.

178. Despite the continued rise in prices and the difficulty of obtaining materials on account of the war, the sale of improved agricultural implements of all kinds in the province during the year showed an increase of about 40 per cent. over the number sold during 1915-16. By far the greater part of the implements sold was ploughs. The Professor of Agriculture is working at two types of improved iron ploughs which he considers will be more suitable for Punjab conditions than any of the existing ploughs. To enable zamindars to harrow their crops, especially wheat, and also to sow their crops in lines, simple bar harrows and drills, made almost entirely of wood, which are very much cheaper than the imported article and only slightly inferior in efficiency, are now being made and sold at the Lyallpur farm.

179. Demonstrations of improved implements and cultural methods were given at some 20 fairs. More useful than these were demonstrations given by the department's men in ordinary zamindars' land with their own bullocks. During the year the Gujrát district board started an agricultural demonstration farm on the lines of that in Siálkot, and several other district boards are meditating similar enterprises. All these farms are managed by officers of the Agricultural Department.

Well boring.

180. The well boring staff continued to do excellent work, and increased the supply of water in 538 wells, as compared with 346 in the previous year. Six tube well installations were also put down. This branch of work was, however, considerably handicapped by the great rise in the price of materials on account of the war.

Storage and distribution of Seed.

Cotton.

181. The area under the well-known American cotton 4-F increased from 50,000 to 215,000 acres during the year, and is now more than 27 times what it was two years ago. An additional income of between 40 and 50 lakhs of rupees should accrue to the growers of this cotton this year in the Province as a whole, owing to the premium it fetches compared with country cotton. Over 50,000 maunds of 4-F cotton were sold by auction last winter in the Lower Chenab, Lower Bari Doab and Lower Jhelum Colonies. The object of these sales, which the Department organises, is to ensure the growers getting as nearly as possible a fair price for their cotton. This object was generally attained. At some of the auctions in the new Lower Bari Doab Colony, the sellers of the purest cotton obtained Rs. 17 per maund, though before the sales they had been getting only Rs. 11 or Rs. 12. Steps are being taken to post Bombay and Lyallpur cotton prices for general information at the more important cotton markets of the province. There is much demand for 4-F seed, and the Department controls and provides as much seed as possible. It provided about 13,200 maunds of 4-F seed in the Lower Chenab, Lower Bari Doab and Lower Jhelum Colonies in the spring of 1917.

Wheat.

182. The wheat known as Punjab 11 is being pushed in the canal colonies. It is a heavier yielder than the mixture it supplanted, and this is the principal reason for its popularity : being pure, it also nearly always fetches a slightly higher price in the market than ordinary wheats. The area under this wheat last rabi in the Lower Chenab, Lower Bari Doab and Lower Jhelum Colonies was 97,000 acres against 27,000 acres in 1915-16. It is estimated that an additional income of at least 2 lakhs of rupees accrued to the Punjab zamindars who grew this wheat. For next season the Department has expended over a lakh of rupees on the purchase of wheat for sale for seed this autumn. In addition to this, very large amounts have been separately stored by large growers and by some co-operative banks for sowing purposes next season.

183. Pusa 12 wheat is very popular in the Hoshiárpur, Jullundur, Gurdáspur and Siálkot Districts particularly on well lands. It is also being grown in the Ferozepore, Karnál, Hissar and Rohtak Districts. The area under it, last rabi, in these districts was about 10,000 acres, and increasing amounts are being stored for next season by growers. It gives an increased outturn of at least 25 per cent. and a premium of 2 annas per maund. It is also very popular for eating purposes.

Sericulture.

184. Seven hundred ounces of silkworm seed were distributed, as against 575 ounces last year, in the Siálkot, Ambála, Hoshiarpur and Gurdáspur Districts, the last taking 578 ounces. The total produce of dry cocoons (95 maunds from 578 ounces of seed) was sold for Rs. 9,074. The Salvation Army Silk School at Simla is doing fairly well, and has at present 20 students.

Date palms.

185. A monograph on date palms by the Economic Botanist is in the press. The Arabian dates continue to do very well and are very popular, though the crop suffered much, as did country dates, from the unusually heavy monsoon.

Co-operative Societies.

General.

186. The year has been one of great activity, but consolidation and education have been aimed at rather than expansion. A second officer of the Indian Civil Service was placed on special duty in January and the number of Government Inspectors was raised to nineteen. At the same time, the Sub-Inspectors formerly paid by Government were discharged and re-employed by societies. With the increased staff it became possible to subject all societies to a thorough over-hauling, with the result that while many defects came to light, a great improvement in the general condition was effected. About 12,000 members who had ceased to take any interest in the movement or were found to be unsuitable were expelled, while 13,000 cases of overdue loans were referred to arbitration. At the same time an effort was made to impart a better understanding of the duties and responsibilities attaching to membership, with the result that over Rs. 52 lakhs were collected on account of shares, principal and interest. The autumn harvest had been somewhat damaged by excessive rain and the spring harvest on dry lands was disappointing, while Government's claim for arrears of land revenue and *takkavi* had to be met; but for these factors the sum recovered would have been much larger.

Central Banks and Unions.

187. Two Central Banks were closed and two new banks were registered. The campaign in support of the war loan led to heavy withdrawals, the Jullundur Bank alone paying out Rs. 1·3 lakhs, but re-payments by societies were unusually good, and there was never any difficulty in meeting the applications of depositors or the demands for fresh loans. Central Banks added Rs. 88,000 to their paid-up share capital and Rs. 58,000 to their reserve funds, and earned Rs. 1·34 lakhs. Their financial position is thus being steadily strengthened.

188. Most of the Unions were re-organised. Each affiliated society is to have one share only and on this no dividend will be paid; all profits will be placed to reserve so as to provide investments as security for the cash credits with the Bank of Bengal, thus relieving the existing public-spirited guarantors of the burden which they have so generously borne. The Unions increased their reserve funds by Rs. 14,500 and earned Rs. 18,540. These central financing institutions now own nearly Rs. 13 lakhs of capital against deposits of Rs. 33·7 lakhs. The work of affiliating agricultural societies to Central Banks or Unions is making rapid progress and 2,532 now own shares in their financing institutions as compared with 1,485 last year. Individual members are still in a majority in fourteen Central Banks, but it is hoped that the voting power will gradually pass in all cases into the hands of co-operators.

189. The effort to create a sound system of rural finance has been facilitated during the year by the grant of several valuable concessions, the most important of which is the approval of a scheme whereby the Provincial finances bear the cost of three-quarters of the commission paid on money-orders despatched from one society to another. The effect desired is to make money more fluid. The Punjab, like other Indian provinces, lacks the banking system which plays so important a part in the financial life of more advanced countries and facilities for the cheap transmission of money are in consequence wanting. The Indian postal money-order system aims at uniformity of charge and the commission is the same for remittances between neighbouring villages as between a village and England or Burma. The result is that the rate presses heavily on regular transactions in a small area, and the new concession will enable village societies to deal with their Central Banks almost as easily as commercial firms deal with their banks in the same town.

190. New rules were sanctioned by the Local Government, the important innovations being that primary societies may pay a cash dividend of not more than ten per cent. in their twelfth and following years and that

the awards of arbitrators shall be enforced by a civil court as a decree of that court. The Government of India remitted the stamp duty chargeable on awards of arbitrators.

Agricultural Societies.

191. The number of agricultural societies rose by 102 to 3,417. The total share capital increased by Rs. $4\frac{1}{4}$ lakhs and now stands at Rs. 46,88,000; the reserve funds total Rs. 27,00,000 and a sum of Rs. 8,34,000 was earned during the year. The capital owned by these societies is thus over Rs. 82 lakhs and forms 58 per cent. of their working capital; while they hold Rs. 11 lakhs in deposits from non-members and nearly Rs. 42 lakhs on loan from Central Banks. Thus the members are rapidly becoming less dependent upon outside aid. As old debts are gradually paid off, the need for money tends to decline. The amount required to finance the agricultural operations of the average small peasant proprietor is very small, varying from fifty rupees in a dry district and eighty rupees in a district irrigated by wells to one hundred and fifty rupees in a rich canal-irrigated tract. Over Rs. 31,58,000 were advanced during the year. More than half of this sum was for strictly productive purposes and a little less than thirty per cent. was for re-payment of old debts. Re-payments of principal totalled Rs. 33·4 lakhs, over Rs. 8 lakhs more than last year, representing nearly 26 per cent. of the amount on loan at the beginning of the year.

Non-Agricultural Societies.

192. Industrial societies have continued to suffer from the war, but good work is being done and with the restoration of normal conditions more progress may be hoped for. The Simla Clerks Societies are working well. A new large society has been registered for the North-Western Railway employees.

Miscellaneous.

193. The work of weeding out and liquidating bad and hopeless societies is being slowly proceeded with. Applications by several hundred members for insolvency threatened at one time to give trouble, but the staff in most cases was able to secure the interests of the societies concerned.

Veterinary and Live-stock.

The Punjab Veterinary College and Hospital.

194. The staff of the Punjab Veterinary College remained under strength during the year and the Principal had to undertake the duties of Professor of Sanitary Science in addition to his own. Eighty-five new students, of whom 32 belonged to the Province, were admitted as against 70 in the previous year, and altogether there were 203 students who presented themselves in the various annual examinations as compared with 189 in 1916. The percentage of passes was not quite so good as in the previous year, but the standard of examination has been raised and the results obtained were very creditable to the staff of the College. Owing to the heavy demand for the services of trained veterinary officers throughout India, only two students attended the post-graduate class. In addition to ordinary teaching work 38 transport dressers and 50 farriers were trained in response to a demand of the military authorities. There was a considerable increase, from 1,121 to 1,603, in the number of in-patients treated in the hospital attached to the College, but the number of out-patients again fell off.

The Civil Veterinary Department.

195 There were many outbreaks of contagious disease during the year, and the Civil Veterinary Department with its depleted staff had a hard task to cope with them. Altogether there were 30,804 deaths from contagious diseases reported, as compared with 20,903 in the previous year. Of equine diseases surra was particularly prevalent and there was a severe outbreak of dourine in the Dera Gházi Khan District. The Dourine Act was extended to this district and every effort was made to check the spread of the disease, but it has since been found necessary to extend the Act to the whole province. Among bovines rinderpest and hæmorrhagic septicæmia were responsible for 25,750 deaths as compared with 9,429 in the previous year. All that was possible with the shortage of staff was done to check these epidemics and the number of animals inoculated and vaccinated against both diseases was subtantially larger than in 1915-16.

Hospitals.

196. A new hospital was constructed at Patti in the Lahore District at the expense of a resident, and additions were made to a number of existing hospitals by private contributions.

GOVERNMENT CATTLE FARM, HISSAR.

197. The year was on the whole a prosperous one for the Hissar Farm. Receipts rose from Rs. 1,01,000 to Rs. 1,25,000, while expenditure fell from Rs. 1,85,000 to Rs. 1,55,000 mainly in consequence of improved fodder conditions. Though hæmorrhagic septicæmia accounted for 18 deaths among the stock, casualties on the whole amounted to only 372 as compared with 439 in the previous year. Stall feeding of the cattle had to be resorted to in the opening months of the year, but the excellent monsoon rains relieved the situation, and by the end of the year a reserve stock of 70,000 maunds of fodder had been collected. The record number of 201 bulls was issued to district boards and 41 three-quarter-bred merino rams were also distributed. An interesting experiment in the breeding of Arab stallions has been started on the farm, and it is hoped in this way to make the province self-supporting as regards the provisions of such stallions for local bodies.

CAMEL SPECIALIST.

198. The work of the Camel Specialist proceeded on the same lines as before. He reported that his special treatment for cases of surra was instrumental in saving 258 camels out of 343 treated. Since the close of the year this department has been taken over by the military authorities.

27-A.—Fisheries.

199. Rules were drafted for the districts of Hoshiárpur, Jullundur, Ludhiána and Amritsar (for the Beas watershed only), and were submitted to Government for approval. Rules were also framed for the Kapúrthala State at the request of the Maharaja and are under the consideration of the Darbar. The regulations have now been enforced in Kángra and a portion of the Hoshiárpur District for over a year and are, on the whole, working satisfactorily.

200. The Chhenáwán and Sirkián murral ponds were abandoned as such, and arrangements were made for a smaller tank in which experiments and results can be watched more closely and carried out more satisfactorily. The trout operations in Kulu were very successful, and the percentage of casualties in nurseries was considerably less than in former years. Ova and fry were also planted out in the Mandi and Chamba States. The only nurseries that proved a failure were those in Chamba and they will be overhauled with the Raja's permission. Several angling licenses were issued in Kulu and the sport obtained augurs well for the future.

28.—Weather and Crops.

Character of the seasons.

201. In the beginning of 1916 the spring rainfall was too slight to leave any moisture in the ground for kharif sowings, the recorded amount being only 40 per cent. of the normal. Except for a short disturbance of the cold weather type the month of March was dry, and in April and May rainfall was greatly in defect, but in June it was fairly heavy in the montane and sub-montane tract and light or moderate elsewhere. This helped cotton sowings considerably. The monsoon burst in the Punjab in the latter half of July, when heavy and widespread rain was received throughout the province, except in a few of the south-eastern and south-western districts. It was unusually active in August and, although widespread rain fell only on a few days in the month, local falls were of frequent occurrence, and were in some places very heavy. These greatly benefited the standing cotton and sugarcane crops. Fairly heavy rain was received in the first week of September, but during the rest of the month the monsoon was weak, except in the south-east, and it failed

altogether to penetrate into the south-western districts. The concluding burst of the monsoon rains occurred between the 2nd and the 6th of October, about a fortnight after the usual time: it was widespread and unusually heavy for the time of the year. Dry weather set in generally during the second week of October and, continuing until about the middle of January 1917, facilitated the picking of cotton and other harvesting operations.

202. The excellent monsoon rainfall followed by heavy rains in the beginning of October was most favourable for the sowing of spring crops. The winter rains, which ordinarily begin about Christmas, appeared on the 14th of January 1917 and were neither so frequent nor so heavy as usual. In the second half of February and March only slight and entirely insufficient showers fell. For the whole period from December 1916 to March 1917 there was a shortage of 75 per cent. and the deficit was general. The season was in fact one of the driest on record. In April and May fairly heavy rain fell at intervals throughout the province, accompanied, as is usual in these months, by hailstorms which did damage in some districts. The April rainfall was harmful in the east and south-east, where much of the wheat had been cut, but benefited greatly the crops of the northern Punjab where harvesting starts at a much later date. After the cessation of the monsoon in October 1916 the supply of water in perennial and inundation canals was sufficient and river floods were high, but later the deficient winter rainfall seriously affected the canal supply.

203. The total sown area exceeded the area sown last year and the assumed normal sown area by 22 and 13 per cent., respectively. The total matured area was 42 and 15 per cent., respectively, more than the previous year's matured area and the assumed normal matured area. The harvests of the year, so far as area is concerned, fell little short of those of 1914-15 which constituted a record. Sown and cropped areas of the year.

204. The total irrigated area of over 12½ millions acres was 40 per cent. of the total as compared with 47 per cent. in 1915-16. Of this 8,071,588 acres, or 64 per cent., were watered by Government canals and the rest by private canals and from other sources. Irrigated areas.

205. The area under wheat advanced from 8,991,542 acres to 9,467,240 acres, an increase of 5 and 10 per cent., respectively, over the previous year's area and the normal. The yield, especially that on the unirrigated areas, was affected by the deficiency of the winter rainfall. The total yield was 2,557,871 tons or 2 per cent. below normal, the yield on irrigated areas being 14 per cent. above, and on unirrigated areas 28 per cent. below this standard. Chief staples.

206. The outturn of the other principal crops as compared with the estimated normal outturn was as follows:—

Name of Crop.	*Outturn in percentage of estimated normal.*
Rice	194
Barley	90
Jowar	61
Bajra	156
Maize	107
Gram	108
Rabi oilseeds	90
Sugarcane	128
Cotton	95

207. Prices, though affected by the war, were, except in the case of wheat and cotton, lower than in the preceding year. Owing to the character of the wheat crop and the brisk foreign demand, which led to an increase of 26 per cent. in its export during 1916-17, the average price rose from Rs. 3-5-0 to Rs. 3-10-0 per maund. In spite of the normal outturn, the price of cotton rose from Rs. 6-9-0 to Rs. 8-10-0 per maund owing to the increased demand for exports. The price of rice fell from Rs. 2-14-0 to Rs. 2-7-0 and of rape-seed, of which the export Harvest prices.

PRODUCTION AND DISTRIBUTION.

demand is small, from Rs. 4-4-0 to Rs. 4-2-0 per maund. The fall from Rs. 5-13-0 to Rs. 5-0-0 in the price of gur was due to the character of the crop.

Trade and stocks

208. Exports of wheat and cotton were heavier than in the previous year and of gram and barley less. Owing to the good harvest imports of rice and sugar were less than in the preceding year. Stocks of food-grains were sufficient in all districts.

29.—Horticulture.

The Lawrence Garden, Lahore.

209. The appearance of the gardens was greatly improved by the removal of the conservatory from the vicinity of the Montgomery Hall, by the formation of a *canna* garden and by the clearing and grassing of the area near the Zoological Gardens. Favourable monsoon rains enabled satisfactory progress to be made with the grassing and planting of the mounds, which from being an eyesore are now becoming one of the most attractive features of the gardens. Financially the year was a satisfactory one for the garden and there was an increase of Rs. 3,500 in the receipts from sales of garden produce; but the improvements effected in recent years involve an increased scale of expenditure and the annual Government grant has been raised by Rs. 3,000.

30.—Forests.

Alteration in areas.

210. The area controlled by the Forest Department was reduced by 584 square miles to 7,211 square miles, the decrease being due chiefly to 566 square miles of unclassed forest in Multán being given up for colonization. The district authorities took over 9,175 acres of Dera Gházi Khan rakhs and 7,247 acres in Núrpur Tahsil, while other small changes were made. The areas which passed out of the control of the Forest Department being almost entirely classed as waste lands, caused little reduction in the areas under forest growth. The area under the department at the end of the year consisted of the following classes:—

	Square miles.
Reserved	1,769
Protected	4,169
Unclassed	909
Leased	364
Total ...	7,211

Forest settlements.

211. Certain complicated questions arising out of the Kángra Forest Settlement were dealt with during the year; but proposals for handing over to the Deputy Commissioner further considerable areas of forests in the Kángra, Dehra and Pálampur Tahsils are still held up pending selection and demarcation of areas to be retained by the Forest Department under a system of rotational closure. Progress has been made in selecting these areas; but it is estimated that the work will not be completed before June 1918.

212. The revision of the settlement of the Sutlej Valley Forests in the Bashahr State was continued and will be completed by the end of the current year. In the lower ranges much included cultivation has been voluntarily given up by zamindars in exchange for portions of forest near their villages and the readjustment of areas will be beneficial both to the villagers and the Forest Department. Boundaries have been thoroughly revised and a record-of-rights prepared. In Montgomery the settlement of areas for the Chíchawatni plantation of 11,680 acres or 18 square miles and of 1 square mile set aside for browsing of Silladar Camel Corps on the line of march has been completed; and 11 square miles are under settlement in the Phália Tahsil of Gujrát District in connection with the proposed reservation of portions of the Dhaffar, Mona, Miána, Gondal North and Musa rakhs for the formation of the Dhaffar irrigated plantation on the Upper Jhelum Canal.

PRODUCTION AND DISTRIBUTION.

Working plans.

213. A revised working plan for the Chánga Mánga plantation was completed and sanctioned, while the revision of the working plans for Kángra and Kulu was continued, and considerable progress made. A revised plan was approved and printed for Dhami State, and a working plan for the Jubbal State chil forests was sanctioned. The revised plans for the Shahdara forest, the Dharmsála Municipal forests and the Pangi forests in Chamba, are still under preparation. Browsing schemes for the 50th and 51st Silladar Camel Corps were sanctioned, and that for the 52nd was completed. The schemes for the 57th, 53rd and 54th are still in course of preparation. All the above schemes will be held in abeyance pending the return of the Corps from field service.

Protection.

214. The total number of forest offences reported was 9,357, a decrease of 1,155 as compared with last year. The decrease of 137 fire cases is mainly due to the wet spring of 1917 favouring fire protection. The decrease of 1,869 cases under unauthorised fellings and 187 under grazing chiefly occurred in Jhelum, Multán and Ráwalpindi, and is attributed partly to the fact that the abundance of grass outside the forests, which resulted from a good monsoon, decreased the temptation to lop for fodder, and also to the fact that free grazing concessions were allowed in most of the Ráwalpindi forests. Considerable loss was caused in Ráwalpindi by the wanton breaking of the resin collecting pots affixed to trees. The number of fires was 160 affecting 4,000 acres as compared with 319 fires affecting 18,511 acres last year: the reason for the decrease has been given above.

Natural and artificial reproduction.

215. The deodar seed crop was much below the average, and a large proportion of the seed was destroyed by insects while still on the trees. Little spruce and silver fir seed was produced but kail seeded profusely and chil gave an average crop. Seedling regeneration suffered severely in consequence of the drought during 1915 and the spring of 1916. It is now realized that the absence of deodar regeneration must be attributed not so much to adverse climatic conditions as to the adoption of an unsuitable system of regeneration. The same remarks apply to silver fir and spruce, whilst in the case of kail and chil regeneration is generally profuse wherever fires and excessive grazing do not take place.

Exploitation.

216. The total area worked over under the different systems of management was 61,150 acres as compared with 89,784 acres last year. This large decrease was chiefly caused by the gradual completion of clearing areas about to come under colonization. The departmental outturn of timber shows a small decrease from last year's figures, owing chiefly to a smaller area having been felled in Chánga Mánga under a revision of the working plan; while minor produce shows a considerable decrease in value owing to the fact that the outturn of crude resin has been taken at cost price instead of at sale price. The decrease in timber removed by purchasers occurred in Bashahr, Kulu and Ráwalpindi, and was due in the case of Bashahr to the fact that the outturn of 3 years' prescription in the Pabar forests was included in last year's returns. In Kulu fewer trees were sold to contractors. The total outturn of all classes of produce, as compared with the average outturn of the previous three years, is shown in the following figures:—

	Timber.	Firewood.	Minor produce.
	Cubic feet.	Cubic feet solid.	Rs.
1916-17	8,855,000	26,942,000	23,60,699
Average, 1913—16	6,926,000	25,024,000	23,53,120

Miscellaneous.

217. The resin industry has developed rapidly, and the profit on the year's working more than covered the entire cost of the distillery, while the quality of the products has been greatly improved.

PRODUCTION AND DISTRIBUTION.

No progress took place in the development of the wood pulp industry, and little advance is possible under present financial conditions. The demand for timber remained abnormal; spruce fir and chil, for which hitherto there has been little demand, were in great request, and the military authorities secured 1,035,000 cubic feet of timber mainly through contractors. The Kulu orchards were enlarged and are now a valuable property.

Financial results.

218. The financial results of the work of the department are given in section 43 of Chapter V below. The year's working shows a surplus of Rs. 9,06,625 and a cash surplus of Rs. 7,26,347. The price of all the chief timbers continued to rule high, and the market for resin products was again most favourable, sales of resin and turpentine giving a revenue of Rs. 2,14,000.

31.—Mines and quarries.

Indian Mines Act.

219. The total number of mines worked during the year under report was 34. Of these, four are Government salt mines, 20 coal mines (15 in Jhelum, 2 in Shahpur and 3 in Miánwáli), and 10 are slate mines (3 in Gurgaon, 2 in Gurdáspur and 5 in Kángra). The limestone quarry at Hoshiárpur was closed on account of a rise in the cost of labour. No new prospecting license for coal was given during the year.

220. The total amount of minerals raised and the value as compared with 1915 is given below :—

—	Minerals in tons.		Value in Rupees.	
	1916.	1915.	1916.	1915.
Coal	47,448	59,579	3,20,026	3,24,533
Salt	160,356	154,770	4,09,244	3,94,986
Slate	7,315	7,910	1,07,890	1,09,926

221. Except in the case of salt there was a slight decrease in the outturn as compared with 1915. The health of the labourers was good and arrangements for sanitation satisfactory. Wages except in Gurgaon are steadily rising.

Other Minerals.

222. The minerals which do not come under the Indian Mines Act are :—Gold by washing, petroleum, alum shale, block kankar, limestone, gypsum, antimony ore, building stone and sandstone. The outturn and value of these minerals during the year are as follows :—

District.	Mineral recovered.	Value.
		Rs.
Ambála, Attock, Miánwáli and Jhelum	Gold, 186·23 oz.	12,152
Attock	Petroleum, 182,430 gallons	18,248
Miánwáli	Petroleum, 1,334 gallons	208
Do.	Alum shale, 6,821 tons	7,217
Ambála	Block kankar, 1,616 tons	3,112
Jhelum	Limestone, 21,491 tons	16,118
Do.	Gypsum, 615 tons	461
Do.	Antimony ore, 4·11 lbs.	40
Do.	Sandstone, 137,579 tons	1,21,775
Simla	Building stone, 5,714 tons	1,335

32.—Manufactures.

223. The number of factories subject to control under the Indian Factories Act, 1911, during the year was 184 as against 187 in the previous year, but the number actually working rose from 163 to 170. Inspections were made of 149 factories, 50 of these being inspected twice, 25 three times and 5 more than three times. Many of the ginning factories were kept closed owing to pooling arrangements, though the cotton crop was good and those which were open worked at full pressure. The number of operatives employed—32,000—was a record for the last ten years. This was due to the good cotton crop and to the employment of increased staffs in the railway and canal workshops on munition work and in the Dhariwal Woollen Mills on army clothing orders.

224. The lighting of factories was much improved during the year, and the provision of means of escape from fire received considerable attention. Satisfactory progress has been made in obtaining the adequate ventilation of nontextile factories, but the problem of ventilating spinning mills presents difficulties which it is hoped to overcome by an amendment of the rules. These improvements in the conditions of labour in factories are however counterbalanced by the marked indifference shown by Indian employers to the well-being of their operatives,—an indifference which is evidenced by the refusal to allow proper rest intervals, the deliberate disregard of the weekly holiday, the sweating of women and children and the squalid and insanitary nature of the housing accommodation provided.

225. The number of fatal accidents increased from 6 in the previous year to 11, but there was a slight decrease in the total number of accidents of all kinds and the percentage of operatives employed who were injured was again lower than in any year in the last decade. Particular attention is paid to enforcing the requirements of the Act with regard to the fencing of dangerous parts of machinery and the steady decrease in the number of accidents is largely due to this fact. Twelve prosecutions for offence under the Act or rules were instituted and all resulted in the imposition of substantial fines.

33.—Trade.

Rail and River-borne Trade.

226. The total trade by rail and river in each of the past three years, excluding animals and treasure, is shown in the following table :— General.

Year.	Imports.		Exports.	
	Weight in maunds.	Value in rupees.	Weight in maunds.	Value in rupees.
1914-15	6,64,24,853	31,23,25,576	5,11,11,130	27,57,74,107
1915-16	6,24,81,999	33,62,97,923	4,96,82,947	31,28,64,401
1916-17	6,02,14,120	34,28,98,851	5,31,85,688	33,89,93,806

The war has caused a steady annual decrease in the volume of imports but a considerable increase in their total value. The volume of exports though greater in the year 1916-17 than in its two predecessors was much below the amount of the pre-war period, but the value was very little less.

PRODUCTION AND DISTRIBUTION.

Imports.

227. The net imports of coal and coke for railway purposes advanced by 31¾ lakhs of maunds in weight and Rs. 38½ lakhs in value, owing mainly to increased consumption in railway workshops. The net imports of coal for private purposes increased by 4 lakhs of maunds in weight, and Rs. 13½ lakhs in value, owing to the greater requirements of cotton ginning and pressing factories, and to the growing preference for coal as fuel. The chief increases in value occurred in apparel, Rs. 33½ lakhs, foreign piece-goods (in bales), Rs. 42½ lakhs, alizarine and aniline dyes, Rs. 13½ lakhs, kerosine oil, Rs. 15¼ lakhs, and paper and paste-board, Rs. 8¾ lakhs.

228. The chief decreases in value in net imports were of foreign cotton piece-goods (in boxes), Rs. 85¾ lakhs, gur, rab, &c., Rs. 64¼ lakhs, jowar and bajra, Rs. 41 lakhs, gunny bags and jute cloth, Rs. 18 lakhs, cotton seed, Rs. 17½ lakhs, bars, sheets and girders, Rs. 16¼ lakhs, and refined sugar, Rs. 8 lakhs. The war and the shortage of freight were responsible for the decreased import of cotton piece-goods in boxes, metal bars, sheets and girders and refined sugar, while the bumper harvests of bajra and sugarcane lessened the demand for their import. The fall in the import of jute products is probably due to the decreased export of gram and other grains, and also to the great overseas demand.

Exports.

229. The most important increases in net exports were of raw cotton, Rs. 170¼ lakhs, rice not in husk, Rs. 43¾ lakhs, wheat, 41¾ lakhs, raw hides of cattle, Rs. 30¾ lakhs, saltpetre, Rs. 20¾ lakhs, rape and mustard seed, Rs. 15¼ lakhs, hay, straw and grass, Rs. 14¾ lakhs, and ale and beer, Rs. 14¼ lakhs. The good harvest was responsible for the increased export of cotton, fodder and rice. Government action to a great extent determined the course of the export of wheat. The demand for oil-seeds which was abnormally low in the previous year showed a revival. Punjab breweries benefited by the restriction in the import of beer and ale and are helping to supply the deficiency in the rest of India. The influence of the war is again apparent in the increased exports of saltpetre which go to England to replace the supplies formerly received from Belgium and Germany.

230. The chief decreases in exports were in gram and pulse, 39½ lakhs of maunds in weight, and Rs. 248½ lakhs in value, which is ascribed to the poor crop and to freight difficulties. For the same reasons the export of other grains also decreased—by 13 lakhs of maunds valued at Rs. 56 lakhs. Woollen piece-goods also declined—by Rs. 10½ lakhs in value.

Treasure.

231. Owing to high prices the gold and silver bullion market was exceedingly quiet. This caused a fall in the net import of gold and silver of Rs. 75¾ lakhs and Rs. 118¼ lakhs, respectively. The net imports of gold coin advanced by Rs. 3 lakhs, but its issue from treasuries is still stopped, and in its place money transactions are carried on in silver coin, the imports of which increased by Rs. 210¼ lakhs.

TRANS-FRONTIER TRADE.

General.

232. With effect from the 5th June 1916, import and export trade with Chinese Tibet ceased to be registered at Sultánpur, the work of registration being transferred to the branch postmaster at Kyelang. This change has affected the returns by the inclusion therein of trade with the country between Sultánpur and Kyelang which formerly escaped registration. Compared with the previous year there was an increase of 4,481 maunds in the weight and Rs. 37,427 in the value of goods imported, and a decrease of 1,645 maunds in the weight and Rs. 2,00,979 in the value of exports.

Afghanistan.

233. There was a slight decline in the import trade with Afghánistán, and a very considerable decrease in the export trade. The value of unmanufactured leather exported indeed increased by Rs. 24,000, but there were even larger decreases in the value of the exports of manu-

factured leather, Indian piece-goods, husked rice and iron owing to the shortage of supply and the rise of prices in India. Altogether there was a net fall of 3,260 maunds in the weight and of Rs. 99,892 in the value of goods exported to Afghánistán.

Central Asia.

234. The weight and value of goods excluding treasure imported from Central Asia fell by 526 maunds and Rs. 1,18,720, respectively. The value of paints and colours imported rose by Rs. 29,065, though there was a falling off of 13 maunds in the weight, facts which reflect the great rise in prices in India owing to the war. Similarly there was a decrease of 148 maunds in the weight of raw silk imported accompanied by a rise of Rs. 15,201 in the value. Imports of charas were less by 1,657 maunds in weight and over Rs. 1½ lakhs in value, owing to the large accumulated stocks held in the Punjab. Imports of raw wool increased by 1,332 maunds, but the value reported was Rs. 6,736 less than in the previous year.

235. The weight of goods exported to Central Asia rose by 345 maunds, but the value fell off by Rs. 1,19,336. An increase in the exports of tea was due to the failure of supplies usually obtained in Yárkand from Russia. Exports of cotton piece-goods increased by 386 maunds, and though there was an apparent fall of over Rs. 55,000 in the value, this was due to the exaggeration of rates in the previous year which has now been corrected. The weight of indigo exported rose from 15 to 72 maunds and the value from Rs. 2,693 to Rs. 27,725. A decrease of over 30 per cent. in the export trade in skins is due to the substitution of skins obtained from China for the skins previously exported from India to Yárkand. The value of manufactured silk exported fell by over Rs. 80,000 owing to the shortage of supplies in India. To this cause may also be attributed a decline of Rs. 26,437 in the value of unmanufactured leather exports, though the existence of large stocks in Yárkand also affected the trade.

Chinese Tibet.

236. Both the import and the export trade with Tibet increased. In the case of exports there was a rise of 1,270 maunds in the weight and of Rs. 18,249 in the value, while imports increased by Rs. 1,58,163 in value and 5,271 maunds in weight. A part of the increase is due to the inclusion of trade which had previously escaped registration, but the demand for wool in India accounted for an increase of about 1,400 maunds in the weight and nearly Rs. 1 lakh in the value of raw wool imported and a corresponding increase in the number of sheep and goats employed to carry the wool and disposed of on arrival in India. The high prices obtained for borax in the previous year resulted in an increase of Rs. 29,000 in the value of borax imported during 1916-17, while the demand for salt in India is shown by the fact that the imports of the commodity were nearly trebled. The export trade presented no particularly noticeable features beyond a satisfactory increase in the exports of Indian tea.

Treasure.

237. The total amount of gold and silver, including coin and Russian paper currency, imported from Central Asia during 1916-17 amounted to Rs. 9,22,358 or Rs. 8,60,682 more than the previous year. The total exports to Central Asia amounted to Rs. 72,475 or Rs. 23,696 less than the previous year. The total amount of silver including coin exported to Chinese Tibet amounted to Rs. 1,06,962 or Rs. 79,052 more than the previous year. The imports of gold and silver were much the largest of recent years, and the reason is to be found in the rise of values in India on account of the war.

Joint Stock Companies.

238. The number of registered companies with share capital decreased by 8, 16 old companies having disappeared and 8 new companies being registered. Two companies are reported to be moribund and with their disappearance there will remain 78 active companies. The activities of an

important firm of English bankers were a feature of the year, and resulted in an increase of paid-up capital amounting to nearly Rs. 72¾ lakhs, a most satisfactory contribution to the industrial revival of the province. The number of Life Assurance Companies remains the same; one Provident Insurance Company was struck off.

34.—Buildings and Roads.

Total expenditure.

239. The total outlay on public works by the Buildings and Roads Branch of the Public Works Department amounted to Rs. 49·3 lakhs or Rs. 19·17 lakhs less than in the previous year. This reduction was due partly to the general curtailment of expenditure necessitated by the war and partly to the difficulty of obtaining imported stores.

Imperial Civil Works.

240. The outlay on Imperial Civil Original Works was only Rs. 11,314 as compared with over Rs. 1·2 lakhs in 1915-16, and on repairs Rs. 44,536.

Imperial Military Works.

241. The expenditure on original Military Works was Rs. 7,175 and on repairs Rs. 33,236.

Provincial Civil Works.

242. The expenditure on original Provincial Civil Works was Rs. 13,32,376 and on repairs Rs. 17,10,772. Considerable attention was devoted to the surroundings of the King Edward Memorial group of hospital buildings at Lahore. A sum of money has been provided by the King Edward Memorial Fund Committee for repairing and improving the surroundings of a number of tombs and temples in the vicinity and a scheme has been prepared for the repair of these buildings and the planting and grassing of their precincts. Trees and lawns are appearing over the whole site of the Memorial Buildings and the scars caused by the building operations are fast disappearing. The Nila Gumbaz improvement scheme, which was undertaken with the object of improving the open space in front of the Memorial Buildings, has been completed by the erection of the Ewing Hall Hostel, opened by the Lieutenant-Governor on 8th November 1916.

Sanitary Works.

243. Thirteen sanitary schemes estimated to cost Rs. 15·5 lakhs were surveyed and projects prepared by the Sanitary Engineer, who also scrutinised 23 other schemes estimated to cost Rs. 3·75 lakhs. The most important works were the extension of the tube-well water supply at Dera Gházi Khan and of the filtered canal water supply at Lyallpur. Drainage schemes are in hand or have been completed at Ráwalpindi, Majítha, Gurdáspur, Wazírabad, Eminabad, Tandliánwála, Bhera, Rúpar, Lálamúsa and Shujabad.

Civil Buildings.

244. The boarding-house at the Agricultural College, Lyallpur, was extended by the addition of a residential block complete with mess-room, kitchen and store-room. Considerable progress was also made with the buildings at the Agricultural Station at Hánsi, and the residence and office of the Deputy Director of Agriculture, the store-rooms and the bullock-byre have been completed. The roads are being laid out and the old thatched roofs of the cattle farm are being replaced by flat mud roofs or by corrugated iron. The Lawrence School at Ghora Gali in the Murree Hills was completed at a cost of about Rs. 3·23 lakhs.

Communications.

245. Expenditure on original works under the head Communications amounted to Rs. 2,48,702 and on repairs to Rs. 12,07,114. A masonry bridge over the Dodni nullah on the Hoshiárpur-Dharmsála road was completed at a cost of Rs. 8,435, and in order to open up communications between the Punjab and the United Provinces, *viá* Ambála and Saháranpur, a disused railway bridge over the Jumna is being converted into a road bridge. The roads in the outskirts of Lahore received considerable attention, and the Shahdara road was widened and provided with footpaths. The bridge over the Chota Ravi was widened and improvements are in progress on the road to the Shálámár Gardens.

Educational buildings.

246. A new Government High School was completed at Hoshiárpur at a cost of Rs. 1,22,571 and the High School at Montgomery is approaching completion. At Simla a house was built for the Headmaster of the High School, and land has been acquired at Jullundur for the Junior Training College and High School hostel which it is proposed to construct.

Police buildings.

247. Police stations were completed at Sargodha, Karnál, Renála, Núrshah and Kassowál, and a police hospital, police station and city post at Dera Gházi Khan. At Dara Tang a fortified police post has been constructed at a cost of Rs. 9,159.

Medical buildings.

248. The congestion in the lunatic asylum at Lahore is being relieved by the construction of quarantine cells. Quarters have also been built for the European warders and for the asylum menials. A new dispensary was practically completed at Dharmsála.

Contribution Works.

249. The Civil hospital at Hissar was completed for Rs. 43,258. A Protestant Church, to replace the church destroyed in the Kángra earthquake of 1905, has been constructed at Upper Dharmsála. The extension of the Punjab University Library was completed during the year and a residence for the 3rd Assistant Principal of the Aitchison College at Lahore is in progress.

34-A.—Railways.

250. The Jínd-Pánipat Railway was opened for public traffic on the 1st November 1916. The line is owned partly by the Delhi-Ambála-Kálka Railway Company and partly by the Jínd Darbar; its length is 28·80 miles in Jind, and 14·22 miles in British territory. With this exception no new lines were opened and the total mileage of railways of all classes at the end of the year was the same as in the previous year.

35.—Irrigation.

General.

251. In the year under report the direct receipts and expenditure were Rs. 2,87,64,477 and Rs. 1,51,85,347, respectively, as against Rs. 2,52,97,116 and Rs. 1,79,70,928 the average of the previous triennium. The expenditure, as divided between Capital and Working Expenses, was Rs. 34,71,014 and Rs. 1,17,14,333, respectively; the former included Rs. 29,20,731 expended on the construction and completion of the Triple Canals. The indirect revenue credited to the canals on account of enhanced land revenue, etc., amounted to Rs. 1,29,51,275 as against Rs. 1,13,14,514, the average of the triennial period ending 1915-16.

252. The total area irrigated and matured in British districts and Native States by the canals in charge of the Irrigation Department was 9,579,824 acres and 8,976,411 acres respectively showing an increase of 695,013 and 489,366 acres respectively over the figures for the year 1915-16 and 856,052 and 608,589 acres over the average of the previous triennium. The increase is due to development of irrigation on the Triple Canals and to the bumper kharif irrigation during the year. Excluding the Triple Canals, the increase is 233,351 acres and 250,068 acres respectively as compared with the areas, irrigated and matured, of the previous year and is due to the favourable monsoon and to greater care in the distribution of water.

253. The financial results of the operations of canals classified as Productive Major Works and the area irrigated by each is shown in the following statement :—

1	2	3	4	5	6	
					PERCENTAGE OF PROFIT ON THE CAPITAL OUTLAY.	
Name of canal.	Area irrigated.	Gross income.	Working expenses.	Net income.	Excluding interest charges.	Including interest charges.
	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.
Western Jumna ...	828,457	31 51,750	13,56,021	17,95,729	10·15	7·00
Sirhind	1,425,740	43,63,676	13,87,150	29,76,526	11·63	8·49
Upper Bari Doab ...	1,201,297	52,08,864	14,19,126	37,89,738	17·35	14·17
Lower Bari Doab ...	514,936	9,64,893	6,26,356	3,38,537	1·55	−1·62
Upper Chenab ...	437,477	25,63,550	8,38,264	17,25,286	4·88	1·71
Lower Chenab ...	2,286,729	1,68,30,103	27,19,783	1,41,10,320	43·61	40·42
Upper Jhelum ...	117,605	83,631	6,40,795	−5,57,164	−1·27	−4·45
Lower Jhelum ...	804,761	47,38,593	9,83,962	37,54,631	23·56	20·35
Upper Sutlej Inundation Canals.	313,151	6,08,794	4,41,398	1,67,396	9·19	6·08
Shahpur	298,556	5,89,749	1,59,012	4,30,737	32·25	29·06
Indus Inundation Canals	265,158	5,28,309	3,98,604	1,29,705	4·35	1·14
Total ...	8,493,867	3,96,31,912	1,09,70,471	2,86,61,441	12·99	9·82

254. The capital outlay expended on the canals in operation as detailed above amounted to Rs. 36,64,709, bringing up the total capital cost of these works to about Rs. 2,361 lakhs including Rs. 154¾ lakhs contributed by Native States. The net revenue earned by the Imperial Canals was Rs. 2,86,61,441 giving a profit of Rs. 12·99 per cent. on the capital invested (Rs. 22,06,16,193). Excluding Triple Canals, the percentage comes to Rs. 22·71. On all the Imperial Canals, Minor Works not classed as Productive, including the two canals for which a capital account is kept, the net profit earned was Rs. 11,36,719 as against Rs. 9,44,305 in 1915-16. On the two Provincial canal systems, there was a loss of Rs. 1,326 as against a loss of Rs. 5,707 in 1915-16.

255. On the canals of the Triple Project the year under review was the first in which all the three canals were in operation. The result of the working of these canals as exhibited in the statement above was poor. This was to be expected as the Upper Jhelum Canal, on which the other two canals, the Upper Chenab and the Lower Bari Doab, are dependent, was opened a year later than was anticipated in the Project and was not able to carry the full supply intended.

256. The important feature of the year was that the construction estimate of the Triple Project was closed on the 31st March 1917 with an expenditure of Rs. 10,10,66,394 against the estimated amount of Rs. 10,36,81,985. Another noticeable feature of the year was the problem of the equitable distribution of the cold weather supply of the rivers Chenab and Jhelum amongst the canals dependent thereon (Upper Jhelum, Lower Jhelum, Upper Chenab, Lower Chenab and

Lower Bari Doab). A rotational programme was arranged by the Chief Engineer after consultation with the Superintending Engineers of the Canals concerned and the distribution effected thereby proved to be, on the whole, fair, but experience indicated modifications which will be tried next winter.

257. The details of the working of each canal are as follows :—

Major Works Canals in operation.

258. The canal was closed for 22 days during *kharif* and 4 days during *rabi* so that it ran for 339 days during the year. The monsoon was a good one and the rainfall was above the normal except in the early months of the year. The total area irrigated, including that irrigated in the Patiála and Jínd States, was 828,457 acres (347,913 acres in *kharif* and 480,544 acres in *rabi*) as against 826,688 acres, the average of the previous triennium. The area irrigated during *rabi* was the highest on record and exceeded the previous highest in 1912-13 by about 9,000 acres. The *kharif* area was short by about 13,000 acres as compared with the previous *kharif* on account of an unprecedentedly low supply in the river during the period for sowing. Western Jumna Canal.

259. The gross revenue collected was Rs. 31,51,750 and Working Expenses Rs. 13,56,021 which were respectively Rs. 1,01,657 and Rs. 24,996 less than the average of the previous triennium. The net revenue amounted to Rs. 17,95,729 against Rs. 18,72,390, the average of the triennial period ending 1915-16 and Rs. 16,00,937 in 1915-16.

260. The irrigation for the year (14,25,740 acres) was in excess of the average of each of the two triennial periods ending 1912-13 and 1915-16, although there was a decrease of 81,327 acres as compared with the figures of the previous year. This defect was in *rabi* ; the *kharif* was the second highest on record. The *rabi* area of 880,966 acres was over the average of the triennium ending 1915-16, but slightly less than the average of the 3 years ending 1912-13 which had been inflated by the *rabi* crops of the two very favourable years 1911-12 and 1912-13. The year under review was a very good one on this canal ; the area irrigated has only been surpassed on three occasions. The Native States branches also did very well, the *kharif* area (211,184 acres) being the highest on record. The canal remained in flow for 125 days in *kharif* and throughout the season in *rabi*. The cultivators on this canal gamble on rainfall and had the river been kinder during the *rabi* season, a large portion of the *barani* area, which was in need of water, would have become canal irrigated to the advantage of the cultivators and the canal. Sirhind Canal.

261. The net revenue earned by the British branches amounted to Rs. 29,76,526, or 11·63 per cent. on the capital invested, as against 7·78 per cent. in the previous year. This favourable result was due to—

(*a*) a very good *rabi* in 1915-16 (the second highest on record) collected during the year ;

(*b*) the realization of the uncollected balance of Rs. 1,35,000 at end of the previous year ;

(*c*) the very poor *rabi* of 1914-15 (collected in 1915-16).

262. The area irrigated was 569,306 acres in *kharif* and 631,991 acres in *rabi* ; the former being the second highest on record (the previous highest in 1913-14 having been exceeded only by 262 acres) and the latter the highest on record on this canal. The monsoon of 1916 was very favourable and continued up to an unusually late date. Had it not been for this, the total failure of winter rains would have had a much more serious effect upon the agricultural conditions. Upper Bari Doab Canal.

263. The net income after defraying the maintenance charges was Rs. 37,89,738, or 17·35 per cent. on the capital invested, as against 15·29 per cent. of the previous year. The percentage charges realized on the work done at the Canal Workshop at Amritsar amounted to only Rs. 67,650 against Rs. 1,04,581 of the previous year, but in addi-

PRODUCTION AND DISTRIBUTION.

tion to this a sum of Rs. 68,968 on account of departmental charges on munition work was credited. The Power Station House of the Amritsar Hydro-Electric Pumping Scheme was completed during the year.

Lower Bari Doab Canal.

264. The total area irrigated (514,936 acres) was short by 135,064 acres as compared with the Project forecast. The working of this canal has not been fully established as yet, owing to the supply in the Upper Jhelum Canal (which was opened in December 1915 a year later than anticipated in the Project) having been still short of full design. Cautious increase of the Upper Jhelum Canal supply is necessary for safety. The Lower Bari Doab Canal supply is however more than enough for the area allotted and the canal is in advance of colonization. Proprietary lands have been broken up and are being irrigated. The total area of Crown waste land allotted at the end of the year was 656,391 acres out of the 791,994 acres of culturable area commanded.

265. The gross receipts were Rs. 9,64,893 and the working expenses Rs. 6,26,356, resulting in a net saving of Rs. 3,38,537. The head-quarters of the office of the Superintending Engineer were moved from Lahore to Montgomery in October 1916.

Upper Chenab Canal

266. The monsoon was above the normal and the *kharif* crops were very fair, but the winter season was again abnormally dry and the river supplies again unusually low; great difficulty was consequently experienced in maturing the *rabi* crops, 9 per cent. of which failed. The increase in the *kharif* area (from 159,152 in 1915-16 to 285,917 acres during the year under report) was remarkable, but the *rabi* area, on the other hand, dropped from 165,910 to 151,560 acres. The total direct receipts were Rs. 23,08,678, or Rs. 2,09,149 in excess of the Project forecast, but the indirect receipts (Rs. 2,54,872) were short by Rs. 4,98,744; this was because the system of indirect credit on this canal was complicated and has not been fully settled. The Deg diversion embankment was maintained intact although the flood water reached as high a level as in 1914; the diversion channel has scoured satisfactorily and the possibility of damage by floods has been reduced.

Lower Chenab Canal.

267. Compared with the figures for 1915-16 the area irrigated showed an increase of 2,650 acres. The *kharif* area was larger by 63,128 acres while the *rabi* figures were less by 60,478 acres. The *kharif* area was the third highest on record and the *rabi* area the fourth highest. The net revenue amounted to Rs. 1,41,10,320, giving a return of 43·61 per cent. on the capital outlay of Rs. 3,23,55,018 incurred to the end of the year. In the previous year, the figures were Rs. 1,26,50,247 and 39·78 respectively. The accumulated net profits have increased from Rs. 11,40,60,690 to Rs. 12,71,39,042—about four times the capital cost of the canal.

268. The area remitted amounted to 3,145 acres during *kharif* and 63,110 acres during *rabi*, giving a percentage of 0·44 and 4·01 respectively on the area irrigated. Out of the area remitted during *rabi*, 31,301 acres were attributed to short supply of water in the river and 22,747 acres to the extensive damage done by hail to the wheat and gram crops in the Lyallpur and Jhang Districts. The steps taken to prevent the increase of waterlogging in the Háfizabad Tahsil have been attended with much success; large areas have been reclaimed and considerable areas have been safeguarded against harm from this source.

Upper Jhelum Canal.

269. This was the first year of irrigation from this canal. The canal supply reached five-eighths of its maximum discharge during the year. A large new canal with high embankments requires a continuous increase in supply. The area irrigated was only 117,605 acres as against 245,000 acres anticipated in the Project forecast. The shortage was due to the fact that irrigation commenced a year later than was anticipated.

270. The gross income from all sources amounted to Rs. 83,631, and the working expenses to Rs 6,40,795 resulting in a loss of Rs. 5,57,164 or

1·27 per cent. on the capital invested. This was attributable to the fact that the water rates were collected for the *kharif* crop only.

271. Most of the tramway material made available for sale or transfer after completion of the works, was sent to Mesopotamia and a fair proportion of surplus plant was also disposed of during the year. The names of the Divisions on this canal were changed from I, III, IV and V to Mángla, Jhelum, Phália and Gujrát Divisions, respectively.

Lower Jhelum Canal.

272. The area irrigated was 239,997 acres in *kharif* and 564,764 acres in *rabi* as against 216,857 and 617,319 acres in the corresponding harvests of the previous year. The increase in *kharif* was due to an ample supply of water in the river assisted by good rainfall. The reason for the decrease in *rabi* was the unprecedented droughts and abnormally low river which necessitated the working of the five canals systems on the definite programme of rotational turns. Out of the total area of 804,761 acres irrigated, 405,920 acres were in proprietary villages and 398,841 acres in colony villages. Proposals for the remodelling of the entire canal system are being framed by the Special Project Division created for the purpose.

273. The gross receipts and the working expenses were Rs. 47,38,593 and Rs. 9,83,962, respectively, giving a net revenue of Rs 37,54,631 or 23·57 per cent. on the capital invested. This was 3 per cent. more than that of the preceding year and was due to (*a*) a decrease in the capital outlay by about Rs. 33,000, (*b*) an increase in the area irrigated during *kharif* 1916 and *rabi* 1915-16, revenue on which was collected during the year under report and (*c*) a very small area having been affected by the failure of crops and the consequent grant of very low remissions.

Upper Sutlej Inundation Canals.

274. During this year, as in the previous year, several important works of improvement, calculated to increase the area of irrigation, were introduced. The net area assessed exceeded by 36,713 acres the average of the triennium ending 1912-13 (266,234 acres), but was less by 19,624 acres than the average of the three years ending 1915-16 which was 322,571 acres and which included the record year of 1914-15. This is quite satisfactory, taking into consideration the fact that the river remained abnormally low throughout the month of May, thereby delaying the date of opening of the canals by more than two weeks.

275. The gross income amounted to Rs. 6,08,794 and working expenses to Rs. 4,41,186, showing a net revenue of Rs. 1,67,396 or 9·19 per cent. on the capital invested. The percentage of the previous year was 18·50.

Sidhnai Canals.

276. The irrigation effected was 114,933 acres in *kharif* and 183,623 acres in *rabi* as against 117,999 and 152,151 acres, respectively, in the preceding year. The percentage of the failed crops was 13·96 in *kharif* and 17·7 in *rabi* against 16·46 and 18·06, respectively, of the preceding year. This is not unsatisfactory in view of the very late rise of the river Ravi and the absence of winter rains during the *rabi* maturing period. The total area irrigated was the second highest on record.

277. The total income from all sources amounted to Rs. 5,89,749 and the working expenses to Rs. 1,59,012, giving a net revenue of Rs. 4,30,737 or 32·25 per cent. on the capital outlay as against Rs. 6,86,187 or 51·5 per cent. in the preceding year. The decrease was due to the decrease in the *rabi* area of 1915-16 which was far short of that of 1914-15 owing to deficiency of water in the river.

Indus Inundation Canals.

278. The area irrigated was 179,941 acres in *kharif* and 85,217 acres during *rabi*. There was a decrease in the *rabi* area, due to earlier fall in the river. The results were on the whole satisfactory, the area irrigated being the third largest on record.

279. The total income was Rs. 5,28,309 and the total expenditure Rs. 3,98,604, giving a net profit of Rs. 1,29,705 against the deficit of Rs. 4,409 in the preceding year.

PRODUCTION AND DISTRIBUTION.

280. The following table exhibits the financial results of the operations of Imperial and Provincial canals and the area irrigated by each :—

Name of Canal.	Area irrigated.	Gross income.	Working expenses.	Net income.
	Acres.	Rs.	Rs.	Rs.
Shahpur Canal (Imperial)	46,769	1,15,018	47,175	67,843
Ghaggar Canal	40,367	21,850	33,585	—11,735
Lower Sutlej Inundation Canals ...	363,884	6,26,728	2,39,727	3,87,001
Chenab Inundation Canals	205,075	4,43,797	1,55,764	2,88,033
Muzaffargarh Inundation Canals ...	398,458	7,53,898	3,51,426	4,02,472
Shahpur Inundation Canals	31,404	45,465	47,609	—2,144

Shahpur (Imperial) Canals.

281. The canals were opened during April 1916 and were closed early in September 1916. They worked satisfactorily although the supply in the river was low. On the 26th April 1917, there was a hailstorm which damaged some of the standing *rabi* crops, but the loss was not as much as it was in the previous two years. The area irrigated was 46,769 acres as against 38,750 acres, the average of the previous triennium. Revenue was remitted on 1,788 acres, of which 1,581 acres were for bad germination, 44 acres for high supply causing flooding of fields and 163 acres for insects and blight. The net revenue of Rs. 67,843 brought a return of 31·42 per cent. on Rs. 2,15,914 the capital outlay to date.

Ghaggar Canals.

282. Excluding the *palever* area included in the figures for the years previous to 1913-14, the area irrigated during the year was the highest on record. The operation of the year resulted in a loss of Rs. 8,630 which is equivalent to 2·29 per cent. on the capital outlay, as compared with a loss of Rs. 18,473 or 4·91 per cent. in the previous year. As remarked in previous reports, so long as the canals receive no credit for the fluctuating revenue on the greater part of the irrigation which they affect, they cannot be expected to be remunerative.

IMPERIAL MINOR WORKS WITH REVENUE ACCOUNTS ONLY.

Lower Sutlej Inundation Canals.

283. The irrigated and matured areas were the second highest on record. The total area which failed to mature was 43,271 acres against 41,759 acres during the preceding year. The increase is mainly attributable to lack of rainfall during the *rabi* maturing period. The net revenue was Rs. 3,87,001 against Rs. 3,36,156 for the year 1915-16 and an average of Rs. 3,20,796 in the previous triennium.

Chenab Inundation Canals.

284. The river Chenab remained abnormally low till the first week of June and consequently the opening of canals was late. It rose rapidly, however, after this date and gave good supplies until the end of August. Generally speaking, the Chenab Canals did well during the year. The crops were fair and there were no calamities.

Muzaffargarh Inundation Canals.

285. The year's results were generally excellent. In spite of the late opening of the Chenab series the areas both irrigated and matured constitute a record. The percentage of failed area, although slightly above that of the preceding year, was lower by 2·6 per cent. than in the previous triennium and less than in any other year since 1902.

Shahpur (Provincial) Canals.

286. The increase in irrigation over the preceding two triennia was due to the satisfactory state of the river supply and to timely rainfall. Revenue was remitted on 1,659 acres, of which 1,243 acres were remitted under tenancy rules, 390 acres for bad germination and 26 acres for high supply causing flooding of the fields. There was a loss of Rs. 2,144 in the year's working which was due to higher working expenses and the fact that a considerable area was irrigated free of water rates under tenancy rules.

CHAPTER V.

REVENUE AND FINANCE.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Land Revenue.—Report on the Land Revenue Administration of the Punjab for the agricultural year ending 30th September 1916.

Canal Revenue.—Administration Report of the Irrigation Department, Punjab, for the year 1916-17.

Excise and Opium.—Report on the Excise Administration of the Punjab for the year 1916-17.

Stamps.—Report on the Administration of the Stamp Department of the Punjab for the triennium ending 31st March 1917.

Income-tax.—Report on the Income-tax Administration of the Punjab during the triennium 1914-15, 1915-16, 1916-17.

Forests.—Progress Report of Forest Administration in the Punjab for 1916-17.

Provincial Revenues.—Audit and Appropriation Report on the Accounts of the Punjab for 1916-17 and Financial Statement published in the *Punjab Gazette*, Part V, of 30th March 1917.

Local Funds.—Report on the Administration and Accounts of the District Boards in the Punjab for the year 1916-17.

Municipal Revenues.—Report on the working of Municipalities in the Punjab during the year 1916-17.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume I—Commercial Statistics.
Volume II—Financial Statistics.
Volume IV—Administrative and Judicial (including area, population and local funds).

Salt.—Report on the Administration of the Northern India Salt Revenue Department for the official year 1916-17.

36.—Gross Revenue and Expenditure.

287. The following table shows the receipts under the various heads of revenue in the year under report :—

Major heads.	Imperial.	Provincial.	Total.	+ more − less on figures for 1915-16.	REMARKS.
	Rs. 1,000	Rs. 1,000	Rs. 1,000	Rs. 1,000	
Land Revenue	1,42,59	1,42,59	2,85,18	+ 5,41	
Opium	7,46	...	7,46	+ 1,30	
Salt	95,28	...	95,28	+ 49,13	
Stamp	29,91	29,91	59,82	+ 1,71	
Excise	37,93	37,94	75,87	+ 5,27	
Provincial Rates	...	32	32	+ 1	
Customs	23	...	23	+ 15	
Income tax	12,31	12,31	24,62	+ 6,06	
Forests	...	16,88	16,88	− 39	
Registration	...	3,72	3,72	+ 16	
Tributes	1,46	...	1,46	+ 2	
Interest	2,55	2,76	5,31	+ 58	
Law and Justice—Courts of Law ...	...	6,90	6,90	+ 1,22	
Law and Justice—Jails ...	...	4,16	4,16	− 28	
Police	...	2,70	2,70	+ 71	
Education	...	5,22	5,22	+ 31	
Medical	...	33	33	− 7	
Sanitation	...	1,22	1,22	+ 84	
Agriculture Department ...	...	2,51	2,51	+ 24	
Scientific and Miscellaneous ...	...	31	31	+ 4	
Receipts in aid of Superannuation ...	1,28	72	2,00	− 21	
Stationery and Printing ...	83	1,08	1,83	+ 48	
Miscellaneous	7,76	5,50	13,26	+ 5,76	
Irrigation—Major Works ...	1,98,24	1,98,23	3,96,47	+ 50,50	
Irrigation—Minor Works ...	9,60	63	10,23	+ 66	
Civil Works	87	4,21	5,08	+ 65	
Transfers between Imperial and Provincial.	− 37,48	+ 37,48	...	...	
Total ...	5,10,82	5,17,55	10,28,37	1,30,25	

288. The gross expenditure excluding expenditure of the Military, Railways, Post Office and Telegraph Departments and capital expenditure on Canals was as follows :—

Major heads.	Imperial.	Provincial.	Total.	+ more – less than figures for 1915-16.	REMARKS.
	Rs. 1,000	Rs. 1,000	Rs. 1,000	Rs. 1,000	
Refunds	98	1,07	205	+ 34	
Assignments	66	35	1,01	+ 15	
Land Revenue	...	47,29	47,29	– 2,18	
Salt	6,24	...	6,24	+ 1,08	
Stamps	89	88	1,77	– 1	
Excise	1,16	1,16	2,32	+ 6	
Income-tax	14	13	27	+ 15	
Forests	...	9,35	9,35	+ 11	
Registration	...	1,24	1,24	– 2	
Interest	1,62	1,94	3,56	+ 8	
General Administration ...	4,38	12,51	16,89	+ 9	
Law and Justice—Courts of Law ...	...	44,95	44,95	– 249	
Law and Justice—Jails ...	...	17,61	17,61	– 33	
Police	...	64,49	64,49	+ 24	
Education	...	42,78	42,78	– 1,32	
Ecclesiastical	2,45	...	2,45	– 16	
Medical	...	8,04	8,04	– 4,37	
Sanitation	...	8,29	8,29	+ 1,04	
Political	6,25	...	6,25	+ 3	
Agriculture	...	12,41	12,41	+ 31	
Scientific and Miscellaneous Departments.	...	1,48	1,48	+ 9	
Pensions, Territorial and Political ...	71	...	71	– 1,53	
Superannuation	2	24,25	24,27	+ 1,09	
Stationery and Printing ...	4	7,16	7,20	– 76	
Miscellaneous	53	5,26	5,79	+ 1,45	
Famine relief *	6,95	5,55	12,50	+ * 3,83	
Reduction or Avoidance of Debt ...	...	1,40	1,40	...	
Irrigation—Major Works ...	86,74	86,74	1,73,48	– 2,41	
Irrigation—Minor Works ...	8,07	2,64	10,71	– 44	
Civil Works	2,52	49,81	52,33	– 17,12	
Total ...	1,30,35	4,58,78	5,89,13	– 23,00	

* There was a mistake in the figures shown in the report for 1915-16. Correct figures were :—

	Rs. 1,000
Provincial	7,09
Imperial	1,58
Total ...	8,67

37.—Land Revenue.

289. The Land Revenue Report gives the figures for land revenue for the agricultural year ending 30th September, whereas the financial year ends on 31st March. There must consequently always be a difference between the total collections as calculated by the Treasury and the yearly returns furnished by the Financial Commissioners' office.

290. The Land Revenue Report for the year ending 30th September 1916 shows the following figures for collections including those on account of previous years, comments on which have already been made in section 10 dealing with demands :—

	Rs.
Fixed Land Revenue	2,12,50,035
Fluctuating Land Revenue	1,22,08,312
Temporarily excluded from fixed Land Revenue Roll	5,43,411
Other Land Revenue	38,62,592
Total ...	3,78,64,350

38.—Irrigation.

291. The total capital invested up to the end of 1916-17 on canals in operation classed as Productive Major Works was Rs. 22,06,16,193. Capital expenditure during the year amounted to Rs. 36,64,709. The income from all sources, excluding refunds, was Rs. 3,96,31,912. Working expenses totalled Rs. 1,09,70,471. Interest charges amounted to

Rs. 70,03,847. The net profit left was Rs. 2,16,57,594 as against Rs. 1,64,21,265 in the previous year.

292. The balance profit on Imperial Canals, Minor Works not classed as Productive, was Rs. 11,36,719 as against Rs. 9,44,305 in 1915-16. Provincial Canals show a deficit of Rs. 1,326 as against one of Rs. 5,705 in the preceding year.

39.—Excise and Opium.

General.

293. Perhaps the most noticeable feature in the excise administration of the year 1916-17 was the greatly enhanced demand for Indian-made liquor, particularly beer. The explanation is not to be found in any spread of the drink habit, but in the large concentration of troops in the Province and the adjoining area supplied from the Province and in the prohibitive prices of imported liquors—consequent on enhanced freight and import duty—which diverted consumers to the cheaper Indian products. Thus the war which had such an adverse effect on the indigenous liquor industry in the previous year, brought it renewed prosperity in the year under report.

294. This increased demand was reflected in a rise of over 23 per cent. in the proceeds from the duty on the articles in question. By far the largest proportionate increases are to be found in the beer duty which rose by Rs. 3,26,222 or 213 per cent. to Rs. 4,79,269, and in the duty on country-made foreign spirit which increased by Rs. 1,55,022 or 179 per cent. to Rs. 2,41,576. There was also a rise of Rs. 1,64,059 or 6 per cent. in the proceeds of the country spirit duty. These three items of revenue far more than compensated for the fall of Rs. 1,06,630 (6 per cent.) in the country spirit vend fees. The total income from liquor rose by Rs. 4½ lakhs or 11 per cent. to Rs. 50½ lakhs, the highest figure it has hitherto reached. This added to the income from opium (Rs. 16,54,916) and other drugs (Rs. 8,61,292), which was slightly in excess of the previous year's figures, brought the total excise revenue to Rs. 75,80,883, representing an increase of Rs. 5¾ lakhs or 8 per cent. over the excise revenue of 1915-16.

Liquor.

295. The extraordinary boom in Indian-made beer is also strikingly exhibited in the returns of issues and sales. The former increased from 969,054 to 2,272,192 gallons and the latter from 886,000 to 2,780,000 gallons. The British Territorials seem to have acquired a taste for the light Indian product, and this and the high price of the imported article have revived the waning prosperity of the Indian brewer. Sales in the bazar shops, however, somewhat declined, the Indian public apparently showing a growing preference for spiced spirit.

296. Apart from beer, the consumption of which is mainly confined to British troops, the increase in revenue was obtained without any marked increase in the normal consumption. Thus while the consumption of country liquor (358,000 gallons) was 7 per cent. above that of 1915-16 (332,000 gallons), when the consumption for temporary reasons had fallen unusually low, it was 7 per cent. below the consumption (382,000 gallons) of 1914-15, which in its turn was much below the figures for 1913-14 (418,000 gallons). Leaving aside temporary fluctuations, the fact that there has been a reduction of nearly 15 per cent. in consumption during the last 4 years is a matter for satisfaction and it may be regarded as axiomatic that this decrease would not have taken place but for the increase in the duty. A decrease in licit consumption caused by higher prices would naturally encourage illicit consumption, but the energetic measures taken during recent years to combat illicit distillation have undoubtedly obtained a fair degree of success, and several authorities ascribe the rise of 7 per cent. in the consumption of country spirit within the last year to those measures. In the increased assistance given by lambardars and their growing sense of their responsibilities in this matter the excise administration will continue to find their chief support in stamping out the evil. How widespread the evil is, is shown by the

fact that in 1916-17 no less than 311 cases of illicit distillation came to light in the ten central districts. In these cases 303 persons were sent up for trial and 212 were convicted. Convictions for drunkenness decreased from 961 to 823.

297. The number of country spirit retail licenses was reduced from 719 to 692. With the object of diminishing consumption and drunkenness the policy of closing liquor shops during fairs and converting shops for "on" consumption into shops for "off" consumption was further continued: 73 licenses in connection with the holding of fairs were discontinued during the year, but three were allowed in the Ludhiana District, where smuggling was apprehended. The introduction of the sealed bottle system throughout the Ferozepore District and in parts of Ludhiána and Gurdáspur was tried, and its extension to other districts of the province is now under consideration. Local and municipal bodies were the regular advisors of the Collector on questions of excise policy.

298. In the latter part of the year the restriction of the sale of special (spiced) spirit to the vend area of the distillery of manufacture was removed, and denatured spirit of local manufacture was exempted from payment of excise duty on issue from Punjab distilleries.

Opium.

299. The Government of India's sanction to the publication of the revised opium rules was received during the year and the rules were notified in October 1916. There was a decrease in the consumption of *Excise* opium from 53,048 to 51,007 *sers*, and the opium revenue also suffered from the fact that the rise in the cost price of excise opium which took effect at the beginning of the year was not followed by any corresponding enhancement of the issue price till April 1st, 1917. Thus, the gains from sale-proceeds fell from Rs. 8,75,292 to Rs. 7,14,958, but an increase both in the duty on other kinds of opium and in the bids for license fees counterbalanced the decrease. There were several cases of opium smuggling during the year. The most notable seizure was that of ten *sers* of excise opium in the possession of a notorious smuggler at Ferozepore.

Charas and bhang.

300. The consumption of *charas* increased from 21,851 to 22,966 *sers*, but that of *bhang* fell from 102,562 to 93,339 *sers*. The continued rise in the consumption of *charas* has necessitated further enhancement of the duty from Rs. 14 to Rs. 18 per *ser*.

Cocaine.

301. The number of licenses for the sale of cocaine was 52 as in the previous year. There was, however, a large falling off, from 15,569 to 8,862 grains, in the amount sold. The sale of the drug was greatly affected by the high prices and the difficulty of import due to the war.

40.—Salt Revenue.

Cis-Indus and Kalabagh Mines.

302. The quantity of salt excavated during the year was 4,623,578 maunds or 14·56 per cent. more than in 1915-16. Issues amounted to 4,545,989 maunds or 14·18 per cent. more than last year, and sales to 6,878,899 maunds or 39·23 per cent. more than the sales of 1915-16.

303. The price, 1 anna and 6 pies a maund, remained unchanged during the year under report. There was a net profit of Rs. 1,21,928 as compared with a profit of Rs. 57,380 in 1915-16. The through traffic sales, which amounted to 5,435,418 maunds, increased by 830,814 maunds or 18·04 per cent. and formed 88·71 per cent. of the total rail-borne trade of the Division, as compared with 96·04 per cent. in 1915-16.

Mandi Mines.

304. The sales from the Mandi mines, 113,339 maunds, were more by 35,125 maunds or 44·91 per cent. than the sales of the previous year.

Sultanpur Salt Works.

305. The sales of Sultánpur salt, 26,276 maunds, decreased by 12,603 maunds as compared with the sales of the previous year. The price

at which salt was sold by the manufacturers at the Sultánpur Salt Works ranged from 5 annas to 10 annas 6 pies a maund, the average price being 6 annas a maund as compared with 5 annas 9 pies a maund in the preceding year.

INTERNAL BRANCH.

306. Fees from licenses for the manufacture of saline substances realised Rs. 5,718 as compared with Rs. 4,198 in 1915-16.

GENERAL.

307. Excluding the operations of the Internal Branch, complete Provincial figures of which are not published, the accounts for the Punjab including excise duty are as follows:—

Source.	*Receipts.*	*Charges.*	*Net receipts.*
	Rs.	Rs.	Rs.
Cis-Indus	94,79,363	6,13,095	88,66,268
Mandi	16,094	5,050	10,999
Sultánpur	32,870	9,191	23,679

41.—Stamp Revenue.

308. Receipts under the Court-fees and Stamp Acts amounted to Rs. 59,87,134 in 1916-17 as compared with Rs. 58,19,745 in 1915-16. Of the total increase of Rs. 1,67,389 the judicial stamps contributed Rs. 80,202. This increase was attributed to enhanced litigation, to a general rise in the conventionally assumed value of land in consequence of enhancement of land revenue in recently settled districts, and to good harvests assisting both zamindars and sahukars—the former in the redemption of their lands and the latter in the recovery of their debts. A special cause of increase in certain districts was the popularity of insolvency proceedings among agricultural debtors who appear to have regarded bankruptcy merely as a method of obtaining a privileged status against their creditors.

309. The receipts from non-judicial stamps rose from Rs. 19,68,957 in 1915-16 to Rs. 20,56,144 in the year under report. The largest increase was on account of impressed sheets. This was ascribed to various causes, such as the rise in the value of immoveable property in the towns owing to keen competition for building sites and the substitution of formal deeds for irregular entries in account books. But the increase seems to be a natural result of provincial development, checked in some degree by the war and the results of the bank failures. Another noticeable increase occurred under share transfer stamps, and was due to the amalgamation of the Punjab Banking Company and the Delhi and London Bank with the Alliance Bank of Simla. The receipts from Hundis, impressed labels and foreign bill stamps seem to be recovering from the effects of the war and the Bank crisis. Elsewhere there is little to notice in the working of the Stamp Department, except that there was a marked improvement in the number of cases in which insufficiently stamped and unstamped documents were dealt with by the courts.

310. The expenditure of the Department fell from Rs. 2,40,823 in 1915-16 to Rs. 2,30,033.

42.—Income-tax.

311. Act V of 1916, enhancing the rates of assessment, came into force on April 1st, 1916. The result was apparent in an increase in the final demand which rose by 51 per cent. from Rs. 15,24,378 in 1915-16 to Rs. 23,03,524. These figures, though remarkable in themselves, do not correctly express the commercial wealth of the province. The big exporting firms do not as a rule pay their income-tax in districts where a large proportion of their profits accrue, but in Calcutta, Bombay, Karáchi, Shikárpur and other commercial centres where they declare their principal place of business or residence to be. The amount of assessable income thus annually lost to one district, Lyallpur, is estimated to be between 8 and 10 lakhs of rupees. General.

REVENUE AND FINANCE.

Tax on salaries.

312. The tax on salaries paid by Government rose by 42 per cent. from Rs. 3 lakhs in 1915-16 to Rs. 4,26,894, mainly as a result of the increased rates, and on those paid by local authorities from Rs. 13,351 by 16 per cent. to Rs. 15,593. The tax on salaries paid by companies, etc., increased by 37 per cent. from Rs. 61,957 in 1915-16 to Rs 85,198. The recoveries at the source under section 9 (2) of the Act rose from Rs. 36,278 in 1915-16 to Rs. 52,525.

Profits of companies.

313. The number of assessees under this head rose by 8 and now stands at 89. In 1913-14 it was only 58. The receipts rose from Rs 96,450 in 1915-16 to Rs. 1,40,666, of which Rs. 81,232 represents the tax paid by one company. The increase is due mainly to the enhanced rates.

Other sources.

314. Under other sources of income there has been a rise in the number of assessees and also in the collections, the latter having increased from Rs. 13,22,445 in 1915-16 to Rs. 17,00,740. As the number of assessees in classes I to IV with incomes less than Rs. 2,000 has risen from 21,475 to 23,104, it will be seen that a substantial portion of the increase is due to the general increase in prosperity and the efforts of the special assessing agency. This agency consists of an Extra Assistant Commissioner with three Naib Tahsildars and office establishment and its activities have been extended to seven large towns in the province with considerable success.

Group assessment.

315. The group system of assessment has been tried in 12 districts with conflicting results. In some places it has met with a moderate degree of success, but on the whole there appears to be a tendency to over-assess the poor to the benefit of the rich, and though doubtless in some cases the method is not without value, the panchayats as a rule do not appear to possess the confidence of tradesmen.

43.—Forest Revenue.

316. The revenue for the year ending June 30th, 1917, was Rs. 16·92 lakhs and the expenditure Rs. 9·66 lakhs, yielding a cash surplus of Rs. 7·26 lakhs. The revenue and expenditure were classified as follows :—

Revenue.

I.—Timber cut from forests by Government agency	7·02 lakhs.
II.—Timber removed by purchasers and consumers ...	7·81 „
III.—Drift and waif-wood	·34 lakh.
IV.—Revenue from forests not managed by Government	·03 „
V.—Miscellaneous	1·73 lakhs.
Total ...	16·93 „

Expenditure.

Conservancy and works	5·19 lakhs.
Establishments	4·48 „
Total ...	9·67 „

317. The revenue decreased by Rs. 1·25 lakhs and the expenditure rose by Rs. 0·43 lakh. The decrease in revenue was chiefly due to smaller sales of trees in hill forests than in the preceding year and also to the completion of the clearing of tree growth from areas coming under colonization. The rise in expenditure was due to larger expenditure on account of extensive departmental extraction in Rawalpindi and to the rapid expansion of the resin industry.

318. The results of the year's working show a surplus of Rs. 9·06 lakhs, as follows:—

Cash surplus	7·26	lakhs.
Increase in value of stock	·03	lakh
Increase of outstanding revenue	·38	"
Increase in outstandings against contractors ...	·21	"
Capital expenditure less interest	1·18	lakhs
Total ...	9·06	".

44.—Provincial Revenue and Expenditure.

319. The provincial shares of the revenue raised and the expenditure incurred in the Punjab during the last two years, with the opening and closing balances in each year, are shown in the table below:— General.

	1915-16.	1916-17.
	Rs. (thousands).	Rs. (thousands).
Opening balance	52,21	63,55
Income	4,40,87	4,80,07
Net transfers from Imperial to Provincial	47,65	37,48
Total ...	5,40,73	5,81,10
Expenditure	4,77,18	4,58,78
Closing balance ...	63,55	1,22,32

320. The improvement of over Rs. 39 lakhs is chiefly contributed by Irrigation—Major Works which head alone accounts for Rs. 25,25,000 owing to the extension of irrigation from the Triple Canal System. Land Revenue shows a rise of Rs. 2,70,000 due chiefly to the collection of large amounts of suspended revenue consequent on the good monsoon, while fluctuating collections also increased considerably owing to the large area irrigated. The good monsoon is again the chief reason for the increase of Rs. 86,000 under Stamps. The rise of Rs. 2,[illegible]4,000 in Excise receipts is largely due to the higher duty on malt liquors and to more extensive sales of Indian-made liquor consequent on restricted imports from Europe. Income-tax receipts rose by Rs. 3,03,000 mainly owing to the enhanced rates which came into force this year. Law and Justice receipts, chiefly magisterial fines, increased by over a lakh of rupees while the improvement of Rs. 1,20,000 in Miscellaneous receipts is chiefly due to higher copying agency receipts. The only decrease of any importance was under Forests and was due to the inclusion of income from arrear fellings in the returns of the previous year. Income.

321. The decrease of Rs. 10 lakhs is mainly accounted for by the absence of the assignment made to provincial revenues when the net income from irrigation falls short of Rs. 41 lakhs. Assignments.

322. The expenditure figures show a saving of about Rs. 18 lakhs as compared with the previous year. The chief decrease occurs under Civil Works (Rs. 15,66,000) and was due partly to a difference in classification of grants to certain District Boards and partly to the curtailment of expenditure due to the war. The large reduction of Rs. 4,37,000 under the Medical head is chiefly due to the depletion of staff caused by officers going on military service. Similar causes, assisted by smaller expenditure on grain compensation allowance, combined to produce a saving of over Rs. 2 lakhs under the Land Revenue head. The decrease of Rs. 2,49,000 under Law and Justice—Courts of Law—is chiefly due to the absence of the Special Tribunals which were a eature of the previous year. Expenditure.

REVENUE AND FINANCE.

Under Education the decrease of Rs. 1,32,000 occurs chiefly under grants-in-aid, while the savings of Rs. 1¼ lakhs under Irrigation—Major Works are due to lower interest charges. The only important increases occur under Famine Relief, Rs. 3,97,000, due to fodder concessions, under Sanitation, Rs. 1,04,000, owing to large purchases of quinine and slightly more liberal sanitary grants and under Superannuation, Rs. 1,10,000, which is mainly the result of normal expansion.

Balances.

323. The net increase of Rs. 29,03,000 in receipts and the decrease of Rs. 18,40,000 in expenditure resulted in the provincial balance being raised from Rs. 63,55,000 to Rs. 1,22,32,000 of which Rs. 11,17,000 is the unspent balance from the Imperial grants for Sanitation.

45.—Local Funds.

324. The gross income of district boards rose to Rs. 78¾ lakhs, or Rs. 3¾ lakhs more than last year. This increase is due chiefly to an increase in the income from the local rate and to larger Government grants. The former rose from 34½ to 36½ lakhs of rupees and the latter from Rs. 24,89,932 to Rs. 24,92,961. Expenditure fell from about Rs. 84 lakhs to Rs. 76¼ lakhs. This decrease is accounted for by the difficulty experienced in carrying out civil works owing to the war and the consequent scarcity of materials.

325. Receipts under education amounted to about Rs. 16 lakhs as against Rs. 14¾ lakhs last year, the increase being due to larger school fees and larger Government contributions. The gross expenditure also increased from Rs. 23,14,740 to Rs. 24,09,227. The net expenditure by boards on education was thus a little over Rs. 8 lakhs, or a lakh more than last year. Income under the head 'Medical' rose from Rs. 97,142 to Rs. 1,07,510. The increase is spread over various sub-heads, the most noticeable feature being the high figures of endowments in Karnál and Ferozepore and of hospital receipts at Ferozepore and Muzaffargarh. Expenditure decreased from Rs. 7,84,047 to Rs. 7,76,901 owing principally to a large reduction in plague charges. The expenditure on hospitals rose from Rs. 4,31,772 to Rs. 4,83,497.

326. There was a falling off by a lakh in receipts under the head "Civil Works," chiefly owing to the reduction of Government grants. The expenditure decreased from Rs. 43,19,741 to Rs. 34,94,979. A number of works have had to be postponed owing to the war and the scarcity of materials and it is not surprising to find that Rs. 3½ lakhs less was spent on new buildings, Rs. 1½ lakhs less on new roads and Rs. 3¼ lakhs less on repairs to roads.

46.—Municipal Funds.

327. The total income of municipalities rose from Rs. 74,85,062 to Rs. 82,00,418 and thus almost reached the figure of 1914-15. The income from taxation was Rs. 45 lakhs, and the increase under the head Octroi has already been noticed. The aggregate expenditure for the year was practically the same as for 1915-16, Rs. 70,55,136 as compared with Rs. 70,29,861, and the total balance at the close of the year rose from 36 to 40 lakhs of rupees. Under the head Water-supply there was a fall from Rs. 6,45,226 to Rs 6,39,020, and under Drainage from Rs. 13,45,460 to Rs. 12,34,372. Under Public Works, Buildings, there was a decrease from Rs. 1,47,905 to Rs. 1,39,867, but a rise under Roads from Rs. 5,60,889 to Rs. 6,60,406. Medical expenditure increased from Rs. 6,89,831 to Rs 7,18,624 and Public Instruction from Rs. 5,75,906 to Rs. 6,07,858.

CHAPTER VI.

VITAL STATISTICS AND MEDICAL SERVICE.

Detailed information on the subjects dealt with in this chapter will be found in the reports and statistical tables noted below :—

PROVINCIAL REPORTS.

Census—Report on the census of the Punjab, 1911, by Rai Bahadur Pandit Hari Kishen Kaul, C.I.E.

Births and Deaths— *Sanitation*— } Report on the Sanitary Administration of the Punjab and Proceedings of Sanitary Board for the year 1916.

Emigration—Census Report as above.

Medical Relief— { Triennial report of the working of the Charitable Dispensaries in the Punjab for the years 1914, 1915 and 1916. Report of the Pasteur Institute, Kasauli, for the year 1916. Report on the working of the Punjab Lunatic Asylum for the year 1916.

Vaccination—Report on vaccination in the Punjab for the year 1916-17.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Statistical Abstract for British India, Volume III—Public Health.

47.—Details of Census.

[*Vide* pages 157-67 of the Administration Report for the year 1911-12.]

48.—Births and Deaths.

328. Calculated on the estimated population as ascertained by the method referred to in the last report, the birth and death-rates for the year 1916 were 42·3 and 28·5 respectively per thousand. The rates calculated on the 1911 census figures work out at 45·6 and 30·7 and in all districts except Simla were higher than the rates calculated on the estimated population. In Simla the birth-rate based on the estimated population was higher than and the death-rate equal to the rates based on the census figures.

329. The year 1916 was a healthy one except for its latter part when malaria was prevalent and resulted in a total death-rate from fevers in excess of those recorded in recent years. The death-rate from plague was the lowest since 1900, and that from cholera also showed a considerable reduction. Deaths from other diseases varied but slightly, except in the case of small-pox and "all other causes" which accounted for more deaths than in recent years. The birth-rate is with two exceptions the highest recorded since the commencement of registration in the Punjab.

330. The number of births registered in 1916 amounted to 881,546 of which 461,540 were of males and 420,006 of females. The total birth-rate, 45·6 *per mille* of the census population, was 2·0 in excess of that recorded in the previous year. The increase in the birth-rate was shared by both sexes, *i.e.*, male 23·9 and female 21·7 as against 22·8 and 20·8, respectively. Births.

VITAL STATISTICS AND MEDICAL SERVICE.

331. The birth-rate this year is satisfactory and is due no doubt, to the absence of severe epidemics of plague and cholera. It has only twice been exceeded since 1878, once in 1899 and again in 1914, when it was 48·4 and 46·3, respectively. No other province recorded so high a birth-rate during the year under report.

332. The highest birth-rate was recorded in the Ferozepore District where it amounted to 52·7, Karnál coming next with 52·2 and Rohtak 51·4. These rates were closely followed by those of Lyallpur (51·1), Lahore (51·0) and Montgomery (50·1). The lowest rate was as usual recorded in Simla where it amounted to 21·4, Dera Gházi Khan, Kángra, Jhelum and Ráwalpindi coming next in order with rates of 30·8, 33·5, 37·6 and 38·6, respectively. The excess of births over deaths amounted to 14·9 *per mille* for the whole province.

Deaths.

333. The total number of deaths during 1916 was 593,670 of which 309,973 were of males and 283,697 of females. The resulting death-rate, 30·7 *per mille* of the census population, is 5·6 less than that for the previous year and 1·0 *per mille* less than the average for the previous five years. Of this death-rate 19·4 or more than half was due to fevers, 7·1 to "all other causes," and 2·6, 0·8, 0·2 and 0·4 to respiratory diseases, dysentery and diarrhœa, small-pox and injuries respectively. All these rates are higher than those recorded in the previous year. The decrease in the provincial death-rate is due entirely to the lessened incidence of cholera and plague with recorded rates as low as 0·1 and 0·2 compared with 0·7 and 11·5, respectively, in the preceding year.

334. The highest death-rate was recorded in Mianwáli (40·3) and the rate was above the provincial figure in Kángra (35·1), Muzaffargarh (34·7), Ráwalpindi (33·6), Ferozepore (33·5), Ambála (32·3), Hissar (31·8), Gujrát (30·8) and the districts of the Lahore Division where it varied between 30·9 and 38·6. With the exception of Hissar, and of Kángra, Miánwáli and Muzaffargarh where the high rate is ascribed to the presence of malarial fevers in an epidemic form, all these districts had a lower death-rate than in the previous year. Fever was responsible for the increase in Hissar and for increases in seven other districts.

335. For towns as a whole the death-rate was 4·7 higher than in rural areas. Among larger towns Amritsar had the highest rate—39·94—though this was lower than the rate of the previous year. On the other hand in Lahore and Multán, though mortality was not so high as in Amritsar, the rates were in excess of those both of the previous year and of the quinquennium. Of smaller towns Gojra, with a death-rate of only 3·14 *per mille* was again the healthiest, but at the other end of the scale were rates of over 60 *per mille* in Begowála, Karor and Kila Didár Singh and the excessively high rate of 72·58 in Mukerian.

336. The unhealthiest months were October, November and December, the malarial season, when the death-rate varied between 3·01 and 3·45 *per mille*. March and July were the healthiest months and were closely followed by February, April and June.

Infant mortality.

337. The figures with regard to infant mortality are not so satisfactory as those of the preceding year, chiefly owing to the prevalence of malaria. Calculated on the number of births during the year the death-rate among male infants amounted to 201·79 *per mille* and among female infants to 198·47 *per mille*. In the Simla District the corresponding rates were much in excess of the provincial average, amounting to 335 for male and 311·3 for female infants.

VITAL STATISTICS AND MEDICAL SERVICE.

Cholera.

338. After three years of severe prevalence (five to thirteen thousand deaths annually) cholera showed itself in a milder form in most parts of the province except in the towns of Pánipat, Gujránwála and Ferozepore where outbreaks accounted for 165, 83 and 79 deaths respectively. The total number of deaths registered in all districts amounted to 1,651, as compared with 13,196 in 1915. The ratio *per mille* of population was 0·09 or 0·59 less than the rate for the previous year and 0·21 below the quinquennial average. The district of Karnál in which 197 deaths were recorded headed the list. Siálkot followed with 186, Ferozepore 166, Gujránwála 164, Ludhiána 151, Lahore 122, Lyallpur 104, Gujrát 103 and Gurgáon 100. In Amritsar, Jullundur, Ambála and Rohtak 93, 66, 59 and 37 deaths occurred respectively. In seven others the disease did not assume a virulent form and the number of deaths registered did not exceed 19. In the districts of Multán, Muzaffargarh and Shahpur the mortality from cholera did not exceed 6, while in Simla only one death was reported. No deaths from cholera occurred in Jhelum, Attock, Montgomery and Dera Gházi Khan Districts. Out of a total of 159 towns and 33,110 villages only 48 towns (including 11 in which one death each occurred) and 201 villages were infected, as compared with 69 and 1,678, respectively, in the year preceding. Cholera was more prevalent in towns than in villages this year, and the infection was at its highest during August and September.

Small-pox.

339. The number of deaths registered in 1916, as due to small-pox, was 2,886, or 0·15 *per mille*, of the population. This rate though 0·66 lower than the mean rate of the preceding quinquennium, was 0·06 more than the rate for 1915. The excess is possibly due to some extent to misclassification: measles (*choti mata*) was very prevalent during the year and many deaths from this cause may have been registered under the head of *bari mata* (small-pox) owing to incorrect diagnosis or to the ignorance of the people. The average death-rate (0·15) from small-pox was the same for towns as for rural circles, but for towns in which the Compulsory Vaccination Act is in force it was 0·14, as compared with 0·18 for those to which the provisions of the Act have not been extended. The rate of mortality from small-pox was greatest among children from one to five years of age. The female rate was lower than the male rate under every age group except between 10 and 20. This increase is possibly the result of the difficulty with which the parents or guardians of girls of this age can be persuaded to submit them to re-vaccination.

Plague

340. There were altogether 4,151 deaths in the Punjab from plague in the year under report—3,325 in British districts and 826 in Native States—as compared with 244,104 deaths in 1915. This is the mildest visitation experienced in the Province since the disease made its first appearance. For 3 weeks in July, the whole Punjab was declared free of plague for the first time in 20 years. Only 5 districts had the disease in the true epidemic form, and of these Ambála and Ráwalpindi were the most severely infected. The districts of Hissar, Ambála, Gurdáspur and Ráwalpindi, which had a legacy of plague from the previous year, were the worst infected. There were 12 districts scattered all over the province where the disease appeared only sporadically. The municipalities of Lahore and Amritsar and the districts of Simla, Multán, Muzaffargarh, Miánwáli and Dera Ghazi Khan were entirely plague-free and Kángra, Gujrát, Jhelum, Lyallpur, Shahpur and Attock had only imported cases. There was the usual rise in March and April, but Ráwalpindi exceptionally showed an increase in October and November. In spite of the abnormal rainfall there were only three districts, Ambála, Ludhiana and Gurdáspur, in addition to Ráwalpindi, which were infected at the end of the year.

341. All the usual methods for combating plague were employed during the year, and in addition experiments were made with Barium Carbonate as a rat poison. The new poison proved deadly to rats, while

VITAL STATISTICS AND MEDICAL SERVICE.

innocuous to dogs, fowls and other domestic animals. The preparation of baits with this poison is also simple and considerably cheaper than that previously in use.

Fevers.

342. There were 376,003 deaths recorded as due to fevers during the year under report. This shows an increase of 91,219 deaths on the previous year when the number was 284,784. The fever death-rate works out at 19·44 *per mille* of population as compared with 14·73 in the preceding year and 15·79 for the quinquennium. The urban and rural death-rates from fevers were 14·87 and 19·90, respectively, as compared with 13·32 and 14·87 in the previous year and 14·48 and 15·99 for the quinquennium.

49.—Emigration and Immigration.

343. There is nothing to report under this head.

50.—Medical Relief.

General.

344. The Medical Department continued to be handicapped by the absence of many of its officers on military duty. During the year 38 more Sub-Assistant Surgeons and 53 Assistant Surgeons were deputed to service under the Army Department. The response made to the appeal for Civil Assistant Surgeons for military duty outside India was most gratifying, but that of Sub-Assistant Surgeons, despite the substantial concessions offered them, was exceedingly poor. The Province furnished a valuable contribution to the military needs of the Empire by supplying 226 trained dressers for service with the army. The Punjab Medical Registration Act was passed in March 1916. It is a measure of very considerable importance to the medical profession in the Province and is welcomed by all who have the interests and welfare of that profession at heart.

Dispensaries.

345. War conditions continued to hamper the provision of additional facilities for medical relief, the net increase during the year in the number of dispensaries being only 5. The number open at the end of 1915 was 473; 13 were opened in 1916, and 8 closed, leaving a total of 478 at the close of the year, each serving on an average 41,800 persons. The total at the close of the previous triennium ending 1913 was 467. The number of dispensaries is clearly insufficient and it is estimated that at least 93 more are required to provide even one dispensary for every 35,000 persons.

Patients.

346. There was an increase by 275,991 in the total number of patients treated in general hospitals and dispensaries during the year, the number being 5,051,811 as against 4,775,820 during 1915. In-patients numbered 94,285 and out-patients 4,957,526, the former showing an increase of 4,375 and the latter one of 271,616 on the figures of the preceding year. The increase in out-patients is largely to be ascribed to the prevalence of malaria during the year, 200,000 more malaria cases having been treated than in 1915. The rates of deaths per cent. of in-patients which was 2·31 in 1914 and 2·27 in 1915, fell still further to 2·08. The number of beds was 4,625, of which 2,852 were for males and 1,773 for females. The number has been increased by 500 during the triennium but is still obviously inadequate.

VITAL STATISTICS AND MEDICAL SERVICE.

Statistics of diseases.

347. The following abstract shows the number of cases of the most important diseases treated during the year, the figures for 1915 being included for purposes of comparison :—

	1915.	*1916.*
Cholera	1,458	558
Dysentery	61,875	74,313
Malaria	464,486	658,461
Rheumatic fever and rheumatism ...	88,696	85,023
Small-pox	93	141
Tubercle of the lung...	4,658	4,681
Other tubercular diseases	5,419	5,377
Diseases of the eye	989,436	1,092,543
Dyspepsia	192,757	202,596
Diarrhœa	52,443	59,859
All other diseases of the digestive system ...	516,592	537,668

348. The increased prevalence of malaria has been noted above and is to be attributed to an unusually heavy monsoon. On the first sign of the occurrence of cases, itinerating dispensaries were sent out to all known malarious tracts and a liberal supply of quinine was provided throughout the Province. A scheme for the quininization of school children was not a success. The local authorities who participated in it, did not comply with the instructions and had no quinine and registers ready when the time came to use them. Steps have been taken to ensure that this does not occur again.

Surgery.

349. The number of surgical operations performed during the year (266,475) though slightly greater than that of 1914 (260,775) did not come up to the 1915 figures (275,506). The decrease is, however, entirely due to a falling off in minor operations. The number of major operations rose from 40,399 to 40,642. The death-rate among patients operated on, ·20 per cent., was the same as in the two preceding years. The percentage of successful cataract operations was the same as in 1915, namely 95 per cent. Operations for stone in the bladder increased again from 2,308 in 1915 to 2,328.

Income and expenditure.

350. With an opening cash balance of Rs. 1,55,011, the total income of the Department in the year amounted to Rs. 16,43,273, or an increase of Rs. 63,280 over the income for 1915. Government contributions fell by Rs 16,069, but contributions from local bodies rose by Rs. 20,730. Subscriptions from Europeans fell from Rs. 47,337 to Rs. 45,625 but those from Indians rose from Rs. 35,501 to Rs. 40,072. Expenditure increased from Rs. 14 lakhs to just over Rs. 15 lakhs and the Department was left with a closing balance of Rs. 1,39,360. The income would be considerably higher if local bodies insisted on payment of fees by the well-to-do for medicines, consultations and operations. The system is in force in all districts but is largely inoperative owing to the luke-warm support given by members of local boards and committees.

The Mayo Hospital.

351. The extension of the Mayo Hospital is steadily approaching completion. The various operation theatres and the Medical, Surgical and Gynæcological out-patient departments were finished and taken over. The septic block, Nurses' Home, steam laundry, hospital kitchens and disinfecting and sterilizing plants were also completed and brought into use. The total number of cases treated was 37,989 as compared with 34,443 in 1915. In this hospital 100 beds were reserved for sick and wounded soldiers from overseas, while 80 beds at Jullundur, 50 at Karnál and 100 at Amritsar were provided for the same purpose.

VITAL STATISTICS AND MEDICAL SERVICE.

Treatment of Women.

352. The efforts which are being made to provide for the treatment of women are shown by the gradual increase in the number of female in-patients from 28,948 in 1913 to an average of 30,997 (7 per cent.) in the last three years, and in the rise from 5,966 to 6,330 on the daily average number of women (excluding female children) treated as out-patients. The total number of women treated as in-door and out-door patients rose from 1,027,739 in 1915 to 1,090,180 during the year under report. Three medical women of the first grade, four Assistant Surgeons, one certificated practitioner, and sixteen Sub-Assistant Surgeons were employed in the district female hospitals. A scheme is now under consideration for the provincialisation of the female Sub-Assistant Surgeons' service on the lines of the existing service for male Sub-Assistant Surgeons, but on a more liberal scale.

Malaria Investigation.

353. Two members of the staff obtained temporary commissions in the I.M.S. and research-work in the laboratory was considerably affected. The malaria surveys of Thánesar, Montgomery, Miánwáli, Gujránwála and Lyallpur were completed, and surveys were undertaken of the towns of Gohána and Khángarh where *malaria is markedly endemic.* Visits to localities in the Salt Range failed to throw light on the reason for the presence there of high spleen and parasite rates in the absence of anopheles larvæ. The problem is under consideration. Observations taken in certain ponds at Lahore and elsewhere tended to throw doubt on the supposed usefulness of fish and waterfowl in the destruction of these larvæ.

Punjab Lunatic Asylum.

354. The number of patients admitted to the Punjab Lunatic Asylum during the year was 329, a figure which again exceeded all previous records. The daily average population (831) was also largely in excess of that of the previous year, though there was a considerable increase in the number of patients discharged as cured. The congestion of accommodation in the male asylum has now been relieved by the provision of an extra block of 20 cubicles and the question of extending the asylum premises is under consideration. The year was on the whole a healthy one and the daily average of sick was much below that of the previous year, though in the latter part of the year malaria was responsible for a considerable amount of illness.

The Pasteur Institute, Kasauli.

355. There was a slight increase from 1,134 to 1,147 in the number of persons from the Punjab treated for rabies at the Pasteur Institute at Kasauli. Of these 73 were Europeans and 1,074 Indians. As the provincial laboratory of the Punjab the Institute was also called upon to examine and report on 988 cases as compared with 820 cases in the previous year.

51.—Sanitation.

Sanitary Board.

356. The Sanitary Board met 4 times during the year.

Grants by Government.

357. There was no balance left from the sum of 8 lakhs placed at the disposal of the Board in 1915-16 as the unexpended balance was withdrawn by Government. A fresh grant of 3 lakhs was placed at the disposal of the Sanitary Board for allotment during 1916-17 and from this grants-in-aid aggregating Rs. 2,60,232 were made between 1st April and 31st December 1916 leaving a balance of Rs. 39,768 which will be accounted for in the next year's report. The whole of the grant for 1916-17, including a lakh which in addition was afterwards placed at the disposal of the Board, was fully utilized; Rs. 3,53,881 were distributed in

aid of urban drainage and water supply-schemes and Rs. 46,119 for rural sanitation and a grant of Rs. 20,500 was made to the Society for Promoting Scientific Knowledge.

Urban and rural sanitation schemes.

358. The Board accorded administrative sanction to schemes for repairs to wells in the Lyallpur District, and for repairs to *ghâts* at Thánesar, and to the Ambála water-works extension scheme. They also accorded revised administrative sanction to drainage schemes for Rúpar, Emínábad, Majítha, Sultánwind and Kálka. Government sanctioned the Rohtak drainage scheme at an estimated cost of Rs. 1,72,831 and also accorded revised administrative sanction to the Lyallpur water-supply extension scheme at a revised estimate of Rs. 1,55,530. The Núrpur fair area and Rewári water-supply schemes and the Multán, Gurdáspur, Emínábad and Rúpar drainage schemes, after approval by the Board received technical sanction from Government in the Public Works Department. Revised technical sanction was accorded to the Lyallpur water-supply extension scheme at a cost of Rs. 1,55,530 and to the Lála Musa and Majítha drainage schemes at Rs. 23,817 and Rs. 14,706 respectively.

Utilisation of refuse and sewage.

359. The income derived from the sale of street sweepings in municipal towns during the year under report amounted to Rs. 1,40,854 as against Rs 1,28,286 realized in the previous year. The largest sums were realized in Amritsar, Lahore and Siálkot. There were 1,326 acres of land under sewage irrigation in the principal towns and Rs. 36,597 were realized for its use. There was a decrease of 516 acres of land irrigated but an increase of Rs. 2,941 in the amount realized.

Attitude of the people.

360. Attempts to improve village sanitation have met with but little real success. The rewards offered by the Gurgáon District Board were again not distributed and the like fate met similar efforts made by the Hissar Board. Sites near villages are invariably in a filthy condition, and manure and dung is stacked in the vicinity of dwelling houses and drinking wells. An epidemic of cholera or plague or a visit by a touring officer will effect a temporary improvement, but soon afterwards matters revert to their normal condition. Some progress is, however, reported from the Ambála, Siálkot, Jhang and Gurdáspur Districts, while the scheme for the sanitary improvement of larger villages, started by the District Board, Karnál, in 1914, is said to be working satisfactorily.

Fairs.

361. The medical and sanitary arrangements at the Pehowa fair in the Karnál District at the end of March were supervised by the Additional Deputy Sanitary Commissioner, who remained there throughout the fair. The usual precautions were taken and everything went off satisfactorily. The number attending the fair was estimated at about 60,000. The same officer also supervised the sanitary arrangements at the Bába Farid fair at Pákpattan, which was, however, not largely attended. The Additional Deputy Sanitary Commissioner with the Civil Surgeon, Gurdáspur, were present during the Nankána Sáhib fair in November. Between 70,000 and 80,000 pilgrims attended, of whom about 45,000 came by rail. The health of the camp was excellent and no cholera or other disease of an infectious nature was reported.

52.—Vaccination.

Vaccination.

362. The number of persons vaccinated during the year was 899,652 or about 52,000 more than in the previous year. There was an increase of about 5 per cent. in the number of primary operations performed and of 10 per cent. in the number of re-vaccinations, but the percentage of cases in which operations were successful was slightly lower than in the previous year and the number of cases in which results could not be ascertained was somewhat higher. During the year the Vaccination Act was extended to fourteen municipalities and is now in force in about 70

VITAL STATISTICS AND MEDICAL SERVICE.

per cent. of the towns to which it is applicable. In such towns 84 per cent. of the children under one year of age available for vaccination were successfully vaccinated as compared with 59 per cent. in other towns.

363. The cost of the department during the year amounted to Rs. 1,43,174, a slight increase over the figures of the previous year, but the average cost of each successful vaccination, Re. 0-3-1, was the same.

Punjab Vaccine Institute, Lahore.

364. The Vaccine Institute issued 42,438 tubes of vaccine as against 33,894 in 1915-16, the increase being due mainly to the larger number of tubes issued to the military authorities and for use outside the province. The number of vaccinators employed was 275 and of these 74 attended the courses of instruction in the technique of vaccination, elementary principles of hygiene, duties of vaccinators, etc., held at the Institute during the year.

CHAPTER VII.

INSTRUCTION.

Detailed information on the subjects dealt with in this chapter will be found in the report and statistical tables noted below :—

PROVINCIAL REPORT.

Education—(1) Report on the Progress of Education during the quinquennium ending 1916-17.

(2) Report on the operations of the Department of Agriculture, Punjab, for the year ending 30th June 1917.

(3) Annual Report on the Punjab Veterinary College and the Civil Veterinary Department, Punjab, for the year 1916-17.

Arts and Sciences—Report on the working of the Lahore Museum for the year 1916-17.

PUBLICATIONS OF THE GOVERNMENT OF INDIA.

Education, Literature and Press—Statistics of British India, Volume V, Education. Statistical Abstract for British India, Volume IV, Administrative, Judicial and Local Self-Government.

53.—General System of Public Instruction.

[*Vide* pages 173-184 of the Administration Report for 1911-12.]

54.—Education.

GENERAL SUMMARY.

365. The number of public educational institutions rose by 186, the increase being mostly in the number of primary schools. The number of scholars increased by 18,090 or 1,886 more than the increase in 1915-16. The total expenditure decreased by a little more than $3\frac{1}{2}$ lakhs of rupees, being Rs. 1,08,63,320 against Rs. 1,12,16,765 in the previous year. This is due to the fact that the Imperial non-recurring grants were entirely expended by the year 1915-16 and the recurring grants were absorbed into the annual recurring expenditure of the department by the end of that year. The expenditure of Local Boards on Public Instruction diminished by Rs. 2,47,014 to Rs. 25,40,260; while that of the Municipal Boards rose by Rs. 43,519 to Rs. 6,42,964.

366. Cooking and laundry work for girls have found a place in the scheme of general education. The posts of six Medical Inspectors of Schools were made permanent. Manual training was introduced in a few High Schools. The total number of scholarships rose from 2,404 to 2,670. Classes for teaching First Aid, &c., were opened in several schools.

367. The rapid increase of late years in the number of secondary schools has entailed much additional work on the senior inspecting staff, and, owing to the press of inspection work, the administrative and supervisory duties of Inspectors have suffered considerably. Two Inspectors in the Provincial Educational Service, Khan Bahadur Maulvi Umr-ud-din and Rai Sahib Lala Jugal Kishor retired during the year under report.

368. The efforts of private individuals and bodies in the cause of education were as a rule confined to the sphere of high school education. The Sikh community showed the highest percentage of increase in all branches of general education.

COLLEGIATE EDUCATION.

369. The number of Arts Colleges for men rose from 9 to 10 by the addition of the Sanatan Dharm College at Lahore, which may relieve, to some extent, the congestion in the older local institutions. The number

INSTRUCTION.

of students increased by 341 to 4,214, the most noticeable increases being at the Khalsa College (83), and the Dayal Singh College (74). The expenditure on tuition increased by Rs. 59,785; the additional income from fees was Rs. 78,311, the extra burden on Provincial Revenues being only Rs. 6,551.

370. The Khalsa College students' Co-operative Society is unique of its kind in the Punjab. The members club together to purchase not only books and school equipment, but also milk and other food, at little over wholesale rates. A valuable development of College life is the social service movement among students. Most of the colleges have now arranged for the systematic medical examination of their students, and a satisfactory feature of Collegiate Education is the preference shown by the student population for residence in hostels.

371. The work of the Government College has never reached a higher level than at the close of the year 1916-17, during which 7 candidates obtained first class honours in the M.Sc. examination, and the percentage of passes in all University examinations rose to the unprecedented figure of 72. The Punjab University had drafted before the close of the year regulations for a Faculty and a Degree in Agriculture.

Secondary Education (Boys).

372. The number of secondary schools rose by 9 to 422, of which 136 were high schools, 135 anglo-vernacular middle and 151 vernacular middle schools. The number of pupils rose by 4,151. The addition of six anglo-vernacular high schools is chiefly due to private enterprise.

373. The total direct expenditure on secondary education for boys during 1916-17 was Rs. 28,23,739. About one-half of the cost is met from the fee income, about one-eighth from private sources and the remaining three-eighths from public funds.

374. The number of trained teachers increased by 356 (more than 9 per cent.) to 3,806. The buildings of three Government High Schools and one hostel were completed during the year. The Ahirs and Bhargawas of Rewári, the Rajputs of Ambála and the Sikhs of Rúpar have established denominational hostels and there are half a dozen hostels of this kind in the Lyallpur District.

375. The Medical Inspectors of secondary schools have been transferred to military duty and there is little likelihood of their places being filled during the continuance of the war. The new scheme of physical exercises based on scientific principles has been introduced in those schools which have instructors capable of putting it into effect. Hygiene and Agriculture have grown in popularity, and the number of candidates taking up these subjects in the Matriculation examination of 1917 was 434 and 464, respectively.

376. Teachers have invested largely in the war loan and the parents of many Central Model schoolboys have bought postal certificates for their sons by monthly payments.

Primary Education (Boys).

377. The total number of primary schools for boys at the close of 1916-17 was 4,918 with an attendance of 244,796 scholars, 161 new schools having been opened during the year, and the number of pupils increased by 10,604. The numbers of board schools and aided schools have risen by 109 and 87, respectively, while that of unaided schools has fallen by 35.

378. The total direct expenditure on primary schools was Rs. 15,67,402 or about Rs. 60,000 more than in 1915-16. Most of this expenditure was met as usual from Local Fund allotments, including, of course, provincial grants.

379. Of the 9,868 Primary teachers at the close of the year, no less than 5,150 were trained and certificated. Though the quality of instruction has improved in consequence of an increase in the proportion of trained teachers, nature study, mensuration and land records are badly taught. The teaching of geography and Urdu composition is far from intelligent and many teachers are themselves ignorant of native accounts which they are supposed to teach.

THE TRAINING OF TEACHERS.

380. In addition to the 10th Government Normal School at Gurdáspur, some training classes for students of an inferior standard have been opened at a number of centres to supply local and immediate needs. The work of the Normal School for Women at Lahore has been supplemented by the opening of several local training classes in 1916.

381. The total number of persons under training was 1,183 men and 263 women against 1,271 men and 267 women in the preceding year. The number of students in the Training Colleges fell from 311 to 272 and in the Normal School for Women from 101 to 80; but a satisfactory feature is the rise in the number of Sikh and Muhammadan women attending training schools, the figures being 28 and 61 against 17 and 49, respectively, in the previous year. The Normal Schools for men show a rise of 69.

382. The expenditure on the Central Training College, a little more than a lakh of rupees, has slightly decreased. There were 194 applicants for admission to the B.T. class. Of the 48 students selected, 2 were M.Sc.'s, 3 M.A.'s, 1 B.Sc., 5 B.A.'s with Honours, and 37 B.A.'s, 20 of whom had served as teachers and were recommended by Inspectors. All the 85 students of the Senior Vernacular Class had passed the Junior Vernacular Certificate examination in the first division. In the Kinnaird College for women, 10 women students were undergoing a course of training as English teachers.

PROFESSIONAL, TECHNICAL AND SPECIAL EDUCATION.

383. The number of industrial schools, 30, remained as before. Proposals for the reform of these schools are under the consideration of Government. Some industrial schools for girls are maintained by Missions, the most important being that recently opened at Clarkabad with an average attendance of 174 pupils who learn *Kashida*, flour grinding, *nala* and *newar*-making, sewing and spinning.

384. The staff of the Law College has been further strengthened and two branch hostels opened; 285 students appeared at the examinations of 1917, of whom 181 (including 65 L.L.B.'s) were successful.

385. The number of students on the roll of the Medical College is 232 against 176 in the previous year. In order to admit the 90 new military medical pupils required by the Army Department, the number of ordinary pupils had to be cut down, no admission being given to candidates from Native States or Municipalities.

386. Eighty-five students were admitted into the Veterinary College in the year and the class of candidates was above the average. Of the new students 26 were from the Indian Army and the Imperial Service Troops, 12 from other provinces, 5 from Native States and 32 from the Punjab.

387. As the result of a resolution of the Agricultural Conference held at Pusa in February 1916, it was decided to apply for the affiliation of the Lyallpur Agricultural College to the Punjab University. A four-year course leading to a degree of B.Sc. (Agriculture) has been drawn up and affiliation has been granted since the close of the year. It is hoped to develop the educational utility of the College by opening a class for the training of teachers in agriculture.

388. The Government School of Engineering, Rasul, continues to do good work. The disinclination of students for manual labour is steadily disappearing. Of the 43 students who passed out last year, 33 obtained employment in the Public Works Department, 2 in the Military Works Department and 3 in the Bahawalpur State service.

389. In the Mayo School of Art, the training of drawing masters has been considerably improved. The work of some departments, for instance that of photography, has been recently handicapped by the cost of materials, but in other respects, a high standard is maintained, especially in the department of advanced cabinet making and joinery.

390. Thirty *ex*-students of the Victoria Diamond Jubilee Hindu Technical Institute, an aided institution, have been assisting in the manufacture of munitions in return for a bare living wage and one without any remuneration at all.

391. The attendance in the Railway Technical School fell from 421 to 395, owing to the recruitment of artisans for war work. The staff has been strengthened by the appointment of a machine instructor, an engine driver, a tin and coppersmith and a moulder.

392. There was a falling off in the number of admissions to the Reformatory School, Delhi, and the number of boys in residence was 112 against 141 in the preceding year. The blacksmith's shop is engaged on work for the Red Cross Society.

393. The Government Commercial School at Amritsar having proved unsuccessful was attached at the close of the year to the Government High School at that place, where it is hoped it will enjoy a new lease of life.

Education of Indian Women.

394. The number of institutions rose from 971 to 990 and that of scholars from 49,367 to 51,496. There are now 8 High and 49 Middle Schools for Indian girls in the Province, but the proportion of those who go beyond the Lower Primary stage is still very low. Professional men are more inclined to marry their sons to educated girls, and education is consequently beginning to be valued by parents as improving the marriage prospects of their daughters. Indian ladies at present take no part in the management of girls' schools maintained by private bodies. District Inspectresses have been employed by 5 boards and Lady Superintendents for town schools by 5 municipalities. Two candidates were successful in the B.A. examination this year, 8 in the F.A. and 34 at Matriculation.

Education of Europeans.

395. The number of institutions increased from 36 to 38 and that of scholars from 2,753 to 3,001. The expenditure was Rs. 10,77,303 against Rs. 10,92,606 in the previous year. Imperial and Provincial Revenues contributed about half. The building of the Ghora Gali Boys' School, was completed this year, and is a very imposing structure with accommodation for two hundred boarders. In the Lawrence Military Asylum, the boys' school staff has been seriously weakened by the claims of the army, but efficiency is nevertheless maintained.

Education of Special Classes.

Muhammadan Education.

396. The total male population of the Punjab was at the 1911 Census just under eleven millions, of whom some six millions were Muhammadans. The total number of Muhammadan scholars in the Province was 144,844 against 163,339 Hindus and 50,761 Sikhs. Muhammadans now constitute 42·9 per cent. of the total number of scholars at primary schools, Hindus and Sikhs 55·8 per cent. In secondary schools the proportion of Muhammadans is still smaller. In the Medical

College, the number of Muhammadan students has remained stationary but the proportion when compared with the number of students belonging to other communities has declined. On the other hand, the Muhammadan element has considerably increased in the Agricultural College, Lyallpur, and the Muhammadans form the bulk of students in the Veterinary College, the Mayo School of Art, and the various Industrial Schools in the Province. In the degree examinations of 1917, out of 737 candidates only 120 were Muhammadans. Of 3,526 boys who passed Matriculation only 849 were Muhammadans and of 2,109 successful candidates at the Vernacular Final Examination, only 723 belonged to this community.

397. The Education Department has made constant efforts in the past to attract Muhammadans, but against the counter-attractions offered by other branches of Government service the success achieved hitherto has not been remarkable. The special grant of Rs. 30,000 a year given for the Islamia College, Lahore, by the Government of India for 3 years in 1913 has since been renewed.

Jains.

398. Out of 152,646 Hindus in public institutions, 1,648 were Jains.

The Upper Classes.

399. Considerable advance has been made in the teaching of Science, Geography and Mathematics at the Aitchison College, Lahore. As many as 17 old boys are or have been on active service at the various theatres of war. A system of regular monthly subscriptions to war funds has been initiated.

Low Castes and Criminal Tribes.

400. The movement for the education of low caste children is apparently gaining strength, chiefly through the exertions of Christian Missions and the Arya Samaj. A beginning has also been made by some of the local bodies. Efforts have been made for the reclamation of criminal tribes through education by the establishment of schools by the Ludhiana and Sialkot District Boards and by the Salvation Army.

MISCELLANEOUS.

The Punjab Text Book Committee.

401. Five hundred books were examined during the year. The committee's own publications number 177 at present, and the year's output was 963,500 volumes. The philanthropic work of presenting books to schools continued as usual and an award of Rs. 1,200 was given to seven deserving authors out of the Patronage of Literature Fund on the committee's recommendations. The committee is composed at present of seven Europeans, eight Hindus, six Muhammadans and three Sikhs under the presidency of the Director of Public Instruction. Complaints against the decisions of the committee are very rare and the Education Department is able to trust to its verdict in the matter of text books. The committee also sees that text books are sold at reasonable prices, thus safeguarding the interests of pupils.

Students' Advisory Committee.

402. The Secretary reports that in spite of the war, the number of enquirers has increased and reached 608 in the year under report, of whom 105 were interviewed.

55.—Literature and the Press.

LITERATURE.

403. In spite of the high price of paper, the number of original publications did not perceptibly fall; that of re-publications rose by 45. The total number of books and periodicals published in 1916 was 1,745 as against 1,721 in 1915. Urdu and Punjabi with 660 and 543 publications respectively, headed the list as before. They were followed by English, which, however, compared unfavourably with the production of the previous year. The number of Arabic and Sindhi publications almost doubled.

404. Poetry and Religion continued to claim the largest number. Books on electric light and wiring, cotton-dyeing, woollen and silk stuffs and architecture were the first of their kind in the vernacular. Strictly biographical works, dramatic plays based on the lives of great men, a few Urdu books on 'Medicine' of a modern type, military hand-books on physical training for the Indian Army in Urdu, Hindi and Punjabi, and Professor Atma Ram's collection of essays on scientific subjects in Urdu may be specially mentioned. Very many of the poetical publications were trash, a number being more or less obscene. Books on religion were in some cases of an offensive character and likely to widen the gulf between different communities or sub-divisions of communities. A marked improvement in their style was, however, noticeable.

405. On the whole the year's literature showed perceptible development in many directions and there was a distinct improvement in the quality of works of Fiction, Drama, Poetry, and Religion and children's stories.

PRESS.

Newspapers.

406. The total number of newspapers and periodicals of all kinds published in the Punjab during the *whole or part of the year* was 261. The figure for the preceding 12 months was 264. There were 211 papers and periodicals in existence at the end of the year as against 193 in existence at the close of 1915. Sixty-eight periodical publications were started during the year and 50 ceased to exist during the same period.

407. Of the 261 newspapers and periodicals, 167 were in Urdu, 59 in English, 4 in Gurmukhi, 9 in Hindi, 1 in English and Roman-Urdu and 1 in Urdu-Hindi. The *number of daily papers* was 19, weekly 69 and monthly 137. The remaining papers appeared at irregular intervals. Of the 19 daily papers, 5 were in English and the remaining 14 in Urdu, 5 represented the Hindu and 7 the Muhammadan community; 2 were more or less neutral.

408. One hundred and forty-eight newspapers and periodicals were published in Lahore and 37 in Amritsar. The other centres of activity were Simla (16), Gurdáspur District (10), Siálkot and Ráwalpindi (7 each) Ferozepore (5), Gujránwála and Jullundur (4 each) and Ludhiána (3).

Circulation.

409. The total circulation per issue of all papers was, as far as could be ascertained, about 270,000 as compared with about 284,000 in 1915 and 308,000 in 1914 The following were the more important papers in the province :—

English.

1. *Bulletin* (Hindu, daily).
2. *Tribune* (Hindu, daily).
3. *Punjabee* (Hindu, daily).
4. *Khalsa Advocate* (Sikh, weekly).
5. *Observer* (Muhammadan, bi-weekly).

Vernacular.

(a) *Urdu.*

6. *Hindustan* (Hindu, weekly).
7. *Paisa Akhbar* (Muhammadan, weekly).
8. **Zamindar* (Muhammadan, daily).
9. *Parkash* (Arya, weekly).
10. *Urdu Bulletin* (Hindu, daily).

* Has since ceased to exist.

11. *Loyal Gazette* (Sikh, weekly).
12. **Zamindar* (Muhammadan, weekly).
13. *Arya Gazette* (Arya, weekly).
14. *Rajput Gazette* (Hindu, weekly).
15. **Lama'āt* (Muhammadan, daily).
16. *Vakil* (Muhammadan, bi-weekly).
17. *Himala* (Hindu, weekly).
18. *Paisa Akhbar* (Muhammadan, daily).
19. *Munir* (Muhammadan, weekly).
20. *Shanti* (Arya, weekly).
21. *Desh* (Hindu, daily).
22. *Public* (Hindu, daily).
23. *Ahl-i-Hadis* (Muhammadan, weekly).
24. *Watan* (Muhammadan, weekly.)
25. *Akhbar-i-'Am* (Hindu, weekly).
26. **Kisan* (Muhammadan, daily).
27. *Khalsa Akhbar* (Sikh, weekly).
28. **Al-Asar* (Muhammadan, daily).
29. *Sanatan Dharm Parcharak* (Hindu, weekly).
30. *Kashmiri Magazine* (Muhammadan, weekly).
31. †*Jhang Sial* (Hindu, weekly).

(*b*) *Gurmukhi.*

32. *Khalsa Samachar* (Sikh, weekly).

410. Of these the circulation of No. 6 was claimed to be above 9,000 ; of No. 7 above 6,000 ; of Nos. 8, 9, and 10 above 4,000 ; of Nos. 11 and 12 between 3,000 and 3,500 ; of Nos. 1, 2, 13, 14 and 15 between 2,000 and 2,900 ; of Nos 16 to 26 (inclusive) above 1,000 ; and of the rest between 700 and 1,000. The decrease in the circulation of newspapers is to be attributed to the increased cost of paper and printing requirements.

411. The total number of declarations filed during the year under sections 4 and 5 of Act XXV of 1867 was 267 : 57 Presses being declared or re-declared under section 4, and 210 newspapers under section 5. Security was demanded on 24 occasions : in 19 cases by the District Magistrate originally or by varying a previous order. Of these one demand was due to the publication of objectionable articles. In five cases security was demanded by the Local Government under section 3 (2) or section 8 (2) for articles coming within the definition of section 4 of the Press Act. Executive action.

412. Action under the Defence of India (Consolidation) Rules, 1915, was taken on four occasions against papers within the province, the *Zamindar* and the *Lama'āt* only being concerned. The entry of the *Tarjuman*, the *Iqdam* and the *Risalat* into the Punjab was also forbidden under the rules.

413. Formal warnings were administered through District Magistrates to newspapers and periodicals, as follows :—

(*a*) Seven for publishing articles open to objection on political grounds.

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* Has since ceased to exist.

† Now called Virat.

(*b*) Two for writings calculated to arouse sectarian ill-feeling or religious animosity.

(*c*) Three for publishing obscene matter.

In each case the presses concerned were also warned.

414. Four provincial publications were proscribed under section 12 of the Indian Press Act, 1910, as being calculated to bring into hatred and contempt certain classes of His Majesty's subjects in British India. Three more, the contents of which were open to objection on various grounds, were withdrawn by the publishers from circulation to avoid prosecution, and two were amended before being allowed to be published. None of these requires particular notice except perhaps the Urdu translation of Nicolai Manucci's *Storia do Mogor*, the four bulky volumes of which were entirely re-edited to meet the complaints of Muhammadan critics.

415. Five printing presses were warned for printing books and pamphlets of an objectionable character. Thirteen newspapers and periodicals and 12 printing presses were formally warned for failure to comply with the provisions of section 3, Act XXV of 1867, and since the close of the year a formal warning has been given to every Press in the province. A fine of Rs. 250 was inflicted under section 292, Indian Penal Code, in the case of an obscene book entitled *Aql-o-Sha'ūr*. The printer concerned was discharged for want of evidence. This was the only prosecution under that section in 1916 as against 19 in the previous year.

56.—Literary Societies.

[*Vide* pages 196 and 197 of the Administration Report for the year 1911-12.]

57.—Arts and Sciences.

THE LAHORE MUSEUM.

416. There was a slight decrease to 357,481 in the number of persons who visited the Lahore Central Museum during the year, but the attendance on "Zenana days" which fell off considerably in 1915-16 improved from 5,224 to 5,680. The usual course of lectures was delivered but the attendance averaged only 153 as compared with 187 in the previous year.

417. Expenditure on the Museum fell from Rs. 11,173 to Rs. 9,584 and practically no funds were available for purchase of new objects. Nevertheless an interesting drawing in the style of the famous Riza School of Persia was acquired, and Dr. Vogel presented to the Museum three terra cotta Buddhist images secured in Tibet.

418. All the galleries were opened to the public during the year, except the new gallery which is used for storing Sir Aurel Stein's collections. The compound of the Museum and of the neighbouring Mayo School of Art has been greatly improved by the removal of a large number of old ill-shaped trees. A sum of over Rs. 2,000 was spent on providing new wall cases which were much needed.

CHAPTER VIII.

ARCHÆOLOGY.

Detailed information on the subject of this chapter will be found in the annual progress reports of the Superintendent, Hindu and Buddhist Monuments, Northern Circle, Lahore, and of the Superintendent, Muhammadan and British Monuments, Northern Circle, Agra, for the year ending 31st March 1917, and in the Administration Report of the Buildings and Roads Branch, Public Works Department, Punjab, for the year 1916-17.

58.—Archæology.

HINDU AND BUDDHIST MONUMENTS.

419. During the year expenditure on the preservation of Hindu and Buddhist monuments in the Punjab amounted to Rs. 3,088 8-2. Of this sum Rs. 1,022-8-0 were devoted to the execution of annual repairs of a petty nature, while the remainder was spent on special repairs on the great Tope at Manikyála in the Ráwalpindi District, the Kángra Fort and the Baijnáth temple at Baijnáth. The conservation of the Manikyála Tope is not yet completed, for though the missing portions of the drum have been reconstructed, the overhanging portion of the core on the north side has yet to be underpinned, and arrangements for the proper drainage of the area around the monument have to be made. The underpinning operations will involve considerable labour, as the core of the structure is composed of large blocks of *kanjur* stone and new blocks of the same kind will have to be especially quarried for the purpose. The cost of these repairs is estimated at Rs. 8,627. A further improvement contemplated is the substitution of capitals of a more suitable design for those restored in the drum of the Stupa in 1891. At the rock-cut temples of Masrúr in the Kángra District, the excavations carried out in 1915-16 have revealed the necessity of further repairs, estimated to cost Rs. 7,758. The work carried out at the Kángra Fort consisted of structural repairs to the archway and jambs of the main gateway and the grouting of cracks.

420. The excavations at Taxila were continued under the personal supervision of the Director-General of Archæology in India. Among other ancient city-sites in the province that call for exploration are the ruins near Harapa in the Montgomery District and Sunet in the Ludhiána District. An outstanding feature of the discoveries so far made at Harapa consists in about half a dozen tablets inscribed in an unknown script, and it is expected that systematic excavations will bring to light further material of this kind, which might furnish a key to the decipherment of these curious characters and throw light on the past history of the site. The remains at Sunet continue to reveal ancient coins and inscribed votive tablets. Some of the latter supply the names of what must have been Brahmanical temples dedicated to Sankara and Narayana, also called Sthanu and Bhagavat in other tablets from the same site. The remains at Harapa are being surveyed and their notification under the Ancient Monuments Preservation Act is in contemplation.

MUHAMMADAN AND BRITISH MONUMENTS.

421. During the year Rs. 14,061 were spent on the maintenance and annual repairs of Muhammadan and British monuments and Rs. 15,315 on special repairs. Small repairs were effected of the dome of the tomb at Lahore of Ali Mardan Khan, a celebrated Persian architect of Shah Jahan who is believed to have been largely instrumental in introducing the bulbous Tartar dome into general use in Indian architecture. The improvement of the road front of the Shálámár Gardens near Lahore has been completed at a cost of Rs. 2,970, and a scheme has been adopted for laying out the

middle terrace about the central tank in these gardens as a rose garden; the formal Moghal treatment of the lay-out being preserved by the planting of a number of small *asoka* trees symmetrically in the angles of the plots.

422. Urgent works, on which Rs. 13,600 were spent during the year, were undertaken at Sheikhúpura with a view to the conservation of the great tank and of the *Haran Minár*. A ruined *ghât* on the south side was repaired and the extensive parapet surrounding the tank, which had subsided in many places, was put in order. The great *minár* at this place is said to have been erected by Jahangir as a memorial to his favourite antelope. In the Anarkali Bazar at Lahore, the restoration of the grave believed to be that of Qutb-ud-din Aibak, Sultan of Delhi, who met his death at Lahore playing polo in 1210 A. D., was carried to completion.

423. The excavation of the buried galleries along the east wall of the fort at Hissar was proceeded with. A considerable portion of the building has been cleared, and it is possible readily to follow the arrangement of the *dáláns* about their central courts. On the opposite side of the roadway into the fort the area immediately about the *lát-ki-musjid* has been cleared down to about 20 feet below the existing ground level, and the battered walls of the lower storey have been exposed.

CHAPTER IX.

MISCELLANEOUS.

59.—Ecclesiastical Jurisdiction.

[For this section reference should be made to pages 201—207 of the Punjab Administration Report for the year 1911-12.]

60.—Ecclesiastical.

424. During the year three new Chaplains of the Church of England and one of the Church of Scotland were appointed to the Bengal (Lahore) Ecclesiastical establishment. The Bishop of Lahore was granted leave and the Archdeacon of Lahore was appointed to act as his Commissary. Several Chaplains were again deputed for service with the troops in Mesopotamia. Establishments were sanctioned for the new garrison church at Balun, Dalhousie, and for the cemeteries at Cliffden and Lower Topa in the Murree Hills and at Pákpattan in the Montgomery District.

61.—Stationery.

425. The value of stationery issued to offices was Rs. 71,367 and to presses Rs. 1,80,186, making a total of Rs. 2,51,553 as compared with Rs. 2,71,395 in the previous year. This reduction, amounting to over 7 per cent., was due to the measures taken to enforce strict economy in the use of paper and was effected in spite of the appreciable rise in the cost of paper. The total expenditure was Rs. 55,493, or over 18 per cent., less than the budget allotment.

62.—Punjab Government Press.

426. Though the receipts from the sale of gazettes and other Government publications were slightly greater than in 1915-16, other press receipts decreased by about Rs. 1,800. Expenditure, however, also fell by over Rs. 2,700, and though the value of the printing work turned out was over Rs. 4,200 less than in the previous year, the decrease in expenditure was most satisfactory in view of the largely enhanced cost of paper and other materials consumed in the Press and of the fact that the freight on all paper used was paid by the Press and not as hitherto by the departments supplied. The sum paid to contractors for form work amounted to only Rs. 35,983 or about Rs. 3,000 less than in 1915-16.